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THE RELATION OF HOME AND SCHOOL

BY

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THE RELATION OF HOME AND SCHOOL

By CHARLOTTE M. SLOCUM

Critic Teacher in Primary Grades

Much educational criticism is directed toward the isolation of the home and the school. This isolation is not so superficial as it has seemed, for each organization has developed a distinct institutional life, and has assumed certain functions in the development of the individual. The family is one of the oldest of human institutions. Two of its important functions among civilized, humane people are the care of the individual during the immature years of infancy and the infirmities of age, and the promotion of his highest development—physical, intellectual, and moral. The school, on the other hand, is a modern institution, and is set apart by society for the education of children and youth.

The home was once responsible for the entire development of the child; but at present the child's religious education is largely given to the church, much control is given over to society, and the school system is commonly regarded as being wholly responsible for his education. The idea that the child gets his education only in the school, however, is as false and mischievous as it is common. The aim of education is to prepare the individual for complete living. It should be distinguished from instruction, which is much narrower in meaning,—and even instruction is broader than the field of school life. We have learned finally that reading, writing, arithmetic, and English grammar are only the instruments of an elementary education and not education itself. These are the *"tools by the diligent use of which a rational education is to be obtained through years of well-directed labor." In its broad sense, education includes all the influences brought to bear upon us, which may in any degree affect the growth or character of our power as human beings. The average school has direct control of the children during only five hours of the day, five days in the week, for not more than forty weeks of the year. This gives one-ninth of the entire time to the school life, or less than one-fifth of the waking hours. Consequently, the school alone can not be responsible for the entire education of the child.

The other educational influences that are at work during at least four-fifths of the waking hours of the child are the father and mother in the home, the natural surroundings and the community life, with its many industrial, commercial, political, social, and religious phases. †"Parents and guardians, not teachers, are responsible for the children's companionship out of school; responsible for the manner in which they spend their time, for what they read, the games they play, and the whole warp and woof of the children's physical, mental, and moral life when not in the school room." The fortuitous education of natural environment and social experience is indirect but powerful. The home and school, the largest factors in the child's education, should certainly co-operate in molding all other influences.

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*The Function of Education in Democratic Society: Charles W. Eliot.

†Dangers Surrounding Children After They Leave Schoolrooms: Charles R. Skinner. Motherhood, Aug. 1902.

Yet whatever the duties of the home, church, or state may be concerning education, the school must always bear the largest share of responsibility for the result, because the home and other institutions have other important duties to perform, but education is the sole function of the school. So generally has this fact been accepted that the school has become a formal institution and has oftentimes been rigid in character. In too many instances it has been distinctly isolated from the home. Parents have felt the institutional character of the school so much that, unfortunately, they have drawn the line of their responsibility at the door of the home. Thus the two strongest agencies during the formative period of the child's life have become widely separated. Most parents know little or nothing about the school lives of their children, about the conditions by which they are surrounded, or the habits they are forming during the hours spent in the school room, and teachers are just as ignorant about the children's home lives. In place of extending their interests into the wider relations, mothers almost universally sigh with relief when vacation days are over, and the children take their books and daily start to school. They have the feeling that for a few hours, at least, they are disposed of and are comparatively safe. Yet these mothers would hardly know the teacher of their children if they should meet her on the street, and the teacher in turn would not know the parents. In most places if the parent is seen coming to school, the teacher knows a complaint is to be made. A friendly visit from a mother, except on some special programme day, is an unusual incident. The same is generally true when the teacher goes to the home. Such a condition is opposed to the best development of the child, of the school, and of the community. There are few relations in life where the true spirit of co-operation is more needed than between the home and the school. Both are responsible for the growth and development of the same children, and the educational principles underlying both are the same. A unity of spirit and action is essential to the success of the most ordinary enterprise, and especially to the successful discharge of a trust so sacred as the development of the human soul.

This relation of home and school is of vital importance, since the school can never take the place of the home, nor in our American Republic can the home take the place of the school. The great mistake in our system of modern education is the attempt to make the school do the work of the home. "The whole boy goes to school," and the school is rightly beginning to give more thought to the physical, industrial, social, and moral phases of his development than formerly; yet it is not possible for the school, during the few hours given to it each day, to assume the entire responsibility of educating the child, physically, intellectually, and morally. Education is the result of the work of all hours of the day, and the home must be held to its responsibility. Parents must not feel that their work can be performed by either the school or the state. The home is and should be the leading factor in the child's life. The intellectual development of the child is the main business of the school and its governing principle should be justice. Every child has the right to demand just treatment from his teacher. Respect, sympathy, and love are likely to follow if the principles of justice are strictly adhered to. On the other hand, love should be the governing principle of the home. Much more of the home atmosphere should be found in the primary grades and in the kindergarten, but even there the child can not find the home life exactly continued. He is introduced to the laws of community life and must begin to give up much of his individual caprice and to find his higher self by merging the lower into a larger whole. *"The public school, in training the child intellectually, needs only the confidence and support of the home; in training him physically and morally, it needs a more active co-operation of parents than it usually receives, but to lay the foundations of virtue,--obedience, self-control, and integrity, and to train him in ways of industry, helpfulness, and right living is the peculiar work of the home. Parents are sometimes hindered by the unwise demands of the school and school duties. They can not do their full duty until the school recognizes that the citizen must have a broader education than the study of books can give; that there is an important phase of life with which the school seldom comes in contact.'

It has sometimes been thought that it would be well to eliminate the school from society and attempt to find a better substitute. The school certainly has no right to exist unless it offers better means and conditions for the development of the child than society could offer without it. Some have thought the home and family life might be sufficient for the child's education. But the majority of homes in this country could do little or nothing towards furnishing the educational advantages that are found in the public school, and no matter howwell the home may be equipped or how capable and cultured the parents, they can not give the child that roundness of character that he can obtain in the school, since he needs the association with a number of children of his own age and interests. "This larger society fits him for a larger usefulness and gives him a preparation for citizenship" which is especially necessary in a republic. Family life tends toward the development of individualism, and individualism, if carried

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*Adapted from The Duties of Parents in Training Children for Citizenship: Henry Sabin.

too far, becomes selfishness and is detrimental to community life. Man realizes his highest self in his institutional life and "to obey institutions is to obey his rational self." The school is the institution that leads the child from the family and attempts to make him a useful member of those wider organizations, the state and society. Neither the home nor the school is complete in itself for the child's development and neither can do the work of the other. Each lacks some essential elements, and each needs the support of the other in order to do its best work.

There is a growing tendency to overcome this isolation between the home and the school The most encouraging sign of this awakening on the part of the home and the school is the establishment of parents' and teachers' meetings. In nearly every state, many organizations exist in connection with the public schools of towns and cities. Ten states have state organizations and there have been seven annual meetings of the National Congress of Mothers. The state organization of Illinois has held five annual meetings. Mrs. William S. Hefferan, of 6448 Harvard Avenue, Chicago, is State President.

One important reason why the home and school should cooperate is that this co-operation would benefit the child physically. How much the mother will help her child if when he enters school, she informs the teacher of any physical defects she may be conscious of. Some mothers are so sensitive concerning these that they hesitate to speak of them, and often the child with the defective eyes and ears is placed in a remote or draughty portion of the room, far removed from blackboard and teacher. The defect is often increased and the child, being physically unable to do the work of the class appears dull and oftentimes gets discouraged. Sometimes the parents are unconscious of these defects and it is the teacher who makes the discovery. By studying her pupils closely a watchful teacher can do much, even without the medical examiners that some schools are introducing. Often she may get the parents to have the child's eyes tested, or to have adenoid growth removed. Parents should also report diseased conditions of the kidneys or bladder. The teacher would thus be conscious of the child's physical limitations and could more wisely adjust him to the life of the school.

If the home and school were in closer unity, unhygienic school conditions would be improved. Many times the buildings are improperly heated, lighted, and ventilated; the children are subjected to over-crowded conditions and often are forced to occupy seats and work at desks that necessitate unhealthy positions. The source of the water supply is sometimes questionable and the means by which the children are furnished drinking water is often unwholesome. Few parents realize the unsanitary and indecent condition of the toilet rooms and out-buildings to which their children are many times exposed. Teachers are not sensitive enough to these conditions, and are unable to improve them without the support of the home. If parents would expose themselves oftener to the overheated, stifling air of many schoolrooms, they would realize more keenly what it means to their children to work in this atmosphere, and they would be more ready to give the time and thought as well as to supply the funds, to bring about improvement.

If parents co-operated more, physical training would be advanced. Many schools have made some attempt at physical training, but even those best equipped with physical director and apparatus have simply made a beginning. This work in most schools is extremely superficial, for the teachers are unprepared, the conditions are unsuitable, and there is little time for it in the crowded curriculum. If parents understood school conditions better, medical examinations would be made possible. Medical examiners have stopped the spread of contagious diseases in some of our city systems of schools, but this work is yet very limited, and nothing has been done in a detailed way with each individual.

The school is wholly dependent upon the home and the community for its financial support, and if the parents could be thoroughly aroused to what unhygienic school conditions and lack of physical training mean to their children, they would be more ready and willing to furnish this support. Home co-operation would often bring about an improved condition of school management. The parents have a right to expect that the teachers divide the work into short enough periods, that there are rest periods enough between exercises, and that the strain of the usual examination atmosphere be lessened. The school often overtaxes the child physically by requiring home work too early and by the amount of home work required. No pupil below the fifth grade should be required to do regular home work. Thus the very institution which should promote the physical well-being of the child often does much to engender disease and ill-health.

If the school and home were in closer sympathy, unhygienic home conditions would be improved. The teacher has the right to expect that the child be sent to school well nourished and having received the proper amount of rest, yet how many times do the pale, pinched faces and puny bodies proclaim that neither food nor rest has been sufficient. In some homes the food is not sufficient in quantity and, owing to ignorance, is poorly prepared and lacks the nutritive quality. But it is not only the child of poverty who is not properly nourished. Many homes develop and minister to morbid, unhealthy appetites. If children eat but little breakfast and then indulge in candy or pickles during the recess or noon periods, they are not likely to take the right amount of nourishing food or be ready for good mental work. Peevishness, irritability, and lack of interest in school duties will probably result. Aside from the poor food and the generally wretched physical condition of some homes, many parents overtax their children physically. The errands may be too many and the hours for sleep and play to few. Every child should certainly have his share of responsibility in the duties of the home, but in some homes of the poorer classes the duties are so excessive that life becomes drudgery. The children often have to work before or after school hours to assist in the support of the family. The work may not be too difficult, but it is constant. The requirements of school follow. Thus the spontaneity is sometimes ground out of the child's life and he becomes sordid and dull. The children of the middle and upper classes are not likely to be taxed in this way, but often suffer physically from lack of proper control in the matters of sleep and clothing, as well as of food. Children's parties and social events often infringe upon nature's rights and the hours of rest. Parents too often permit and even encourage this indulgence. The period of adolescence and the high school period are likely to suffer most in this respect. Uncomfortable and unsuitable clothing is often the cause of fretfulness and irritation on the part of the child. Shoes that pinch, clothing that chafes or restrains or makes the child vain and self-conscious often interfere with the child's power of attention. On subjects relating to the physicial development of the child, consequently, parents and teachers should be in close sympathy to save the pupil from the danger of the present social tendency and from himself.

The co-operation of the home and school would also benefit the child morally. In the moral development, the home has the burden of the responsibility. Yet when the child enters school, many problems arise for the first time. If the home instills the cardinal virtues, not only by precept but by example, the young life may be trusted in the field of wider associations with its increasing temptations. When a child enters the school, the parent may help by interpreting his physical condition, but not his moral status. If the teacher is informed sometimes in the child's presence of his idle habits, his mischievous spirit, or his dislike for school, the child is branded in the eyes of the teacher and in his own eyes, and he generally lives up to his reputation. The child should have an opportunity to make a beginning, and it is the business of the teacher to study her problem with an unbiased mind. The school should re-enforce the best teachings of the home. It should * "regulate conduct positively rather than negatively; by making the *do* more prominent than the *don't*. The function of the teacher does not consist so much in prohibiting evil as in encouraging the good; in surrounding the young with suggestions which fill the mind with thoughts that issue in virtuous conduct." Parents may interpret the moral atmosphere of the school by the spirit of the playground, the nature of the work in the classroom, and by the general spirit of the school. Does the teacher know the spirit of the playground and are the games played with a sense of honor, or is the spirit mean or low? Does the teacher "show off" her children when visitors are present, or is the regular work continued? Is that work thorough and genuine? Is the spirit of the school that of helpfulness and joy? Are all interested in helping the weak, and are the children thoughtful of each other? Such questions are vital in determining the moral atmosphere of the school and parents should be informed concerning them.

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*Thoughts on Religious Education, M. V. O'Shea.

If parents and teachers were in closer touch, there would be a better understanding concerning the application of principles of government. The best homes and the best schools have high standards of government and discipline, yet frequently when these standards are applied to individual cases, there is a difference of opinion. Parents sometimes consider the school too lenient and sometimes too severe, generally the latter. The theory may be correct, but the particular application to their particular child often gives rise to severe criticism on the part of the parent concerning the teacher and school. Too often this criticism is expressed before the child, a most unfortunate occurrence. If a careful investigation shows that the teacher was unjust, the parent had better encourage the child to pass over the event and look at the strong points in his teacher. Carping criticism on the part of the home will remove all possibility of the weak teacher's doing for the child even what he might have done otherwise. Some teachers, like some parents, should be removed from their positions. Parents should not let one or two weak teachers cause the child to lose respect for all teachers and the school. They are doing him an injustice in marring or destroying the good influence the institution may have. Teachers are often governed by the traditions of school-life more than they realize. This is not entirely wrong, for tradition stands for the crystallized experience of the past, yet the rules and customs and every simple act of schoolroom discipline should be questioned and made to prove the right to exist. The teacher is wise in heeding the comments of the friends outside. They have a different view of the subject and are less hampered by dogma. Their unbiased judgment can perhaps discern where the tradition of the school conflicts with the good of the individual or class. This can be done if the object of both is not to discern "who is right, but what is true."

Neither the home nor the school is perfect, and each should bear with some of the imperfections of the other. If the standards of the school do not meet the approval of the homes, they should be modified through the co-operation of parents and teachers and the influence of both saved.

Teachers and parents should join forces against the publishing and selling of vile literature, for pure manhood and womanhood can come only from pure childhood. Preventive rather than curative measures should be taken against bad literature, and the school and the home should endeavor to establish a love for the good, the pure, and the beautiful.

> "To cure was the voice of the past,—
> To prevent, the divine whisper of today."

Co-operation of home and school would benefit the child intellectually as well as physically and morally. In the intellectual training, the school has its great problem and consequently needs a corresponding confidence and support from the home. William T. Harris shows how all education is a process of isolation or separation. There is an isolation in the education in the family, the school, the state, and the church, or rather the undeveloped individual is isolated and can be emancipated only by the educational influences of these institutions. The child must leave his world of play and get over into the world of reality. The youth finds this not to be the "independent, complete whole" that the child had supposed and so passes on to larger worlds. *"Isolation of the school thus seems to mean something deeper than the mere lack of continuity with the home life or even with the life of civil society in which the home life moves. It means the emancipation of the youth from the immediate sway of what is near and the bringing of his mind into an appreciation of what is far off in time and space, but which nevertheless has been powerful in making the present world what it is." The school has this distinct function to perform, but the home may greatly modify its results. It may strengthen or weaken the activities of the schoolroom by its attitude toward them. The school is the creation of the home and the home must have confidence in it. The community should largely determine what the school should accomplish, but the particular method by which this is to be done should be left to those persons who have been trained by study and experience in this particular work. These problems can be handled wisely only by professional teachers working in the school, and not by the public in general. Lay interference in professional matters, though made in the best spirit, is not helpful but harmful.

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*"The Isolation of the School: How it Hinders and How it Helps." William T. Harris.

Parents will help their children by showing interest and pride in the finished work when it is brought home, thus bringing school life into the home. If parents encourage the child to bring from the home objects that bear on the work of the school, home life is extended into school life. If the home responds to the youthful enthusiasm of the child in his new-found relations and is sympathetic and, to a degree, intelligent concerning each new estrangement, the school work will be greatly strengthened. When the child sees his parents in harmonious conference with the school, he feels himself subject to a united instead of a divided authority, and this brings an increased confidence and happiness, for the teacher is his friend and not merely the friend of the class in general. The home may help the school, moreover, in establishing the correct reading habit. Love for good literature should be stimulated early in a child's life, and parents should read for and with their children. Teachers, on their side, should be ready to suggest books suited to the various ages and stages of development. Again, parents may help much in developing the child's aesthetic nature. Few realize the great influence that surroundings have on a child's character. The school buildings and grounds should not only promote his physical advancement but should instill a love for the beautiful. The yard should be beautified by trees and flowers and the walls of the schoolroom tinted and hung with a few well-selected pictures. If pictures and statuary are sent from the homes, as loans or gifts, they should not consist of those things once discarded by the home, but of those whose influence should be reflected in the lives of the children. The home may also help the school in the intellectual development of the child by respecting and practicing the high ideals of the school. If the homes are indifferent to the high standard of intellectual development, culture, and citizenship that the school develops, the pupils realize that the same value is not placed upon these after school life and in consequence the school can not make a lasting impression. Thus the intelligent sympathy and interest of the home may do much to re-enforce and supplement the work of the school, promoting the child's interests physically, morally, and intellectually.

This relationship of parent and teacher also benefits the school and home. Through it the teacher will have a better knowledge of his problem and will make fewer mistakes. Wider culture often comes from association with parents of richer experience and broader knowledge, and this culture is reflected in the school. Parents, for their part, often receive an insight into the psychological phase of the teacher's work and thus learn to study the child and handle him more wisely. That which benefits the child, benefits the home. Hence, through a better knowledge of the problems and methods of each, closer sympathies are established and the home and school benefit each other.

There have been many difficulties in promoting an intelligent co-operation of home and school. Teachers sometimes fear having their professional work judged by non-professional standards and hence discourage the visits of parents. There is no provision that teachers undertake the delicate task of informing the parents concerning educational methods, and with their crowded hours they often hesitate undertaking it. If teachers realized how much more they could do for the children, if they knew more of their experiences and home surroundings, and if they realized how sympathetic and responsive the majority of mothers are, if approached wisely, and how this better understanding would help in the many difficult problems that arise, they would be more ready to take the time and make the effort to bring about active co-operation. As one mother said, "There is nothing so likely to remove any false pride or conceit a parent may have concerning a child, as to sit for an hour and see him ranked with his fellows in the honest competition of school life."

Owing to the attitude of some teachers, mothers sometimes hesitate to visit the school for fear of intruding. At other times, they are afraid of betraying ignorance concerning school life, and often they simply lack confidence in themselves, owing to new methods. "It is all so different from the way I was taught!" It is sometimes difficult for the parent to understand why the child has no use for a book when he first enters school, why he may reach the age of seven and hardly know the alphabet, and why number work is postponed so long. The development of the play and constructive instincts are perplexing; for, as Mr. Dooley says, "Education to most parents means anything, so it gives the child something disagreeable. The child can't be learning if he is happy." Why shouldn't the child read his book through again and again, learn the names of kings and presidents, the dates of battles, and the boundaries of all the states? Though parents may admit the abstractness and uselessness of much they learned, they are sometimes "honestly fearful that something will be omitted that their child should know," and hence question the outcome of all these modern methods. Teachers naturally shrink from undertaking to inform the parents concerning these subjects; but when the teachers attempt this they find the parents much more responsive and sympathetic than they supposed.

In many cases, however, the co-operation of home and school is not established because the parents are careless or indifferent. Some think the school alone is responsible for the child; others "have not the time." Housekeeping duties, social functions, club and church work, or a combination of all take the mother's time, and the father's hours are given to business. Often the most perplexing and discouraging task the teacher undertakes is the attempt to arouse the homes from their apathy on this subject. It is generally a slow process, and the teacher will meet with many discouragements. It is strange that parents so seldom realize their responsibility and allow minor duties so to absorb time and thought that they can not keep in touch with their children in their intellectual and spiritual development. The baking and washing must be done, and the mother should broaden her culture through club work and social intercourse; but all these activities should not prevent her from making the highest interests of her child her chief responsibility. Mothers sometimes realize their mistake when it is too late, after their children have grown from them. The sympathy and close touch may be gone just when the child or youth needs most the parental influence. Some mothers make a brave effort and do all that is being done for the child in this respect. The father unjustly leaves the responsibility with the mother while he devotes his time to business. He knows how his live stock is housed and cared for, but he does not know the teacher of his child. Graham Taylor says, "Many children are half orphans." Scientific, not instinctive, parenthood is the need of this generation. We prepare our young men and women for all activities of life except that of parenthood.

In attempting to overcome the isolation of the home and school, some localities have adopted the plan of sending to the parents question-blanks by means of which information concerning the child is secured. Teachers also accumulate information, and these records are passed on to succeeding teachers. This is a step in the right direction. Home and school visitation, however, does far more to promote the desired relationship. Parents should be constantly urged to visit the schools and see their children at regular work; then they can more intelligently keep abreast with the child's interests and growth. Explanations and discussions on the subject, however, should not be held during the school session, when the teacher is supposed to be busy with her children. Parents, on the other hand, should take the teacher of their child to their hearth and home. If there is a difference in culture and in social standing, it can be best overcome by repeated acts of such kindnesses, and the reflex influence will be seen in the more refined and delicate handling of the child in the school or in the home. But the most successful plan of co-operation is where parents and teachers come together and study the problems of child growth and development in general and the immediate manifestations, as seen in their particular children. In some places it has been the custom to call these meetings at times when there seemed to be special need for them, but it has been found that those parents' meetings that have been productive of the most good have fixed times and places of meeting. These meetings should be re-enforced constantly by frequent visitation of the parent at the school and of the teacher at the home.

In the organization of parents' and teachers' meetings, the initiative steps have in some instances been taken by the home; in others, by the school. In the majority of instances, the teachers have been prompted by the great need, and have invited the parents to the school. If the children have assisted in preparing and distributing the invitations and in making the school building attractive by an exhibition of their work, which has been saved for this purpose, and by arranging floral decorations, the parents will appreciate it the more. It is always advisable for teachers previously to visit the homes and explain the object of such a meeting. Since this co-operation has been brought about mainly in connection with kindegarten and primary grades, some persons have supposed that the need of co-operation is not so great during the child's later development, and especially during the period of secondary education. This is a serious mistake, for never is the child so likely to be misunderstood, or is the need of co-operation so great, as during the period of adolescence. Too often the child does not know the meaning of this strange life, and he is not wisely handled by either parent or teacher. One of the aims of the National Congress of Mothers is to establish parents' and teachers' meetings in every public school in the United States,—in rural schools, and in all grades, including the high school. Parents' clubs are beginning to be established throughout the grades of some schools, and a few high schools are taking up the problem. The high schools at Englewood and Hyde Park, in Chicago, have organized parents' clubs, and the Educational Department of the Chicago Woman's Club, at the close of work in May, 1904, formally voted to make the concrete work of that department for the coming year the formation of parents' clubs in all other high schools throughout the city.

Parents will attend better if all such meetings are held in the school building rather than at some private home. *"The rich and poor, high and low, meet on the plane of a common need, a common ideal. The public school is a great leveler, but it levels up." Parents' meetings are often held in the evening, when business hours are over, but mothers' meetings are generally held in the afternoon with an occasional evening meeting to which the fathers are invited. The afterooon session should be short, not exceeding an hour or an hour and a half in length, so mothers may return before time for the evening meal. Parents' and teachers' meetings are generally held once in each month or once in every two weeks. The latter arrangement is better, for more active interest may be maintained. Such meetings should begin in the fall and close early in the spring before the last trying weeks of school.

The object of these meetings is not to entertain the parents, though this may be done occasionally, but to confer with them upon subjects of vital interest to the child. The child is the center, and only those subjects relating to his welfare should be considered. It is this feature that distinguishes mothers' clubs from all other women's organizations. The first meeting is generally given to a consideration of the subject of co-operation, presenting the needs, and suggesting definite ways in which parents and teachers may help each other. In selecting subjects for the programme, two groups of questions present themselves. The first group relates more particularly to the home, growing out of the mother's experience, and therefore affording topics upon which she is

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*Cora Stanton Brown.

prepared to speak. Such questions as children's food, sleep, clothing, the questions of tardiness, obedience, and punishment come under this group. The second group consists of topics that bear more upon the school life of the child, questions that teachers should be competent to discuss. Hygienic aspects of school life, the formation of habits, the value of the kindergarten, the object of manual training and the school garden, the influence of art, music, or literature, and fraternities and sororities are suggested. Mothers should not be frightened away by the dread of having to appear on the programme. A large number of mothers are so unaccustomed to composition that it would be too great a task to impose upon them the writing of a paper. Yet these mothers may be willing to read or discuss papers prepared by others. Many excellent papers may be secured through the Bureau of Exchange of the Illinois Congress of Mothers. Mrs. Charles D. Cramer, of Wilmette, Illinois, has charge of this bureau. It is sometimes desirable to have a nurse or physician present such subjects as the care of contagious diseases, the reflex disturbances of children, and the adolescent child; to have a dentist give reasons for the early care of children's teeth; or to have a minister discuss the problem of the Sunday school and the religious training of children. Yet if too many outside speakers are introduced, there is danger of having too much lecturing and too little discussion. Those meetings are most helpful in which the parents take an active part. In the Parents' Club at the Englewood High School (Englewood, Illinois), instead of having formal lectures or papers, the members discuss informally matters of vital interest concerning the curriculum and management of the high school. A "children's meeting" may be desirable once each year, when the parents are asked to come and see the children in their regular recitation work. A condensed programme may then be given, showing the presentation of the most important subjects. The children may have the responsibility of receiving and serving the guests. Some mothers' meetings have found great profit in discussing by chapters or sections such books as "A Study of Child Nature" by Miss Harrison, "Children's Rights" by Kate Douglas Wiggin, and "Point of Contact" by Patterson Du Bois. Every school or community has its own problems and some leading spirits can be found who are willing to bring them before such meetings.

In conducting the meeting, the teacher or some parent presides, but it is advisable to keep such gatherings as free from formalities as possible. The spirit of freedom and helpfulness is the essential feature. In the afternoons, mothers frequently enjoy sewing or darning while discussing the topic that had been presented. Light refreshments often promote sociability. The children may occasionally assist in serving. The attendance at the meetings should not be confined to the mothers and fathers, for often helpful advice and information may be obtained from other sources. The grandmother, the young wife, the sister, or aunt may all assist in carrying on some of the more active work, for they may have more hours of leisure. Mothers are often detained at home by the care of young children. This difficulty may be overcome sometimes by having the mothers bring the little ones to the meeting and then give them to the care of some of the older girls or a kindergartner. Any intelligent young woman can entertain children by means of colored papers, balls, beads, or by games, stories, and songs. It is impossible in a single statement to give a true conception of the effort, patience, and perseverance that are often necessary in order to get the parents to attend and to make these meetings a success. In communities where parents come from homes that represent great extremes in the social scale, greater tact is needed to make all feel welcome. The common bond of parenthood, and the urgent needs of childhood should be the binding force. Personal calls and explanations must be made again and again and a constant effort must be put forth to emphasize the fact that all mothers have many problems in common.

In some localities parents and teachers have found that the work may be more efficient and more permanent if formal organization takes place. Such organizations are called Parents' Clubs, Parents' and Teachers' Clubs, Mothers' Clubs, or Mothers' Unions. But even if a club is formally organized, a constitution is not essential nor is a large number of officers. Some clubs have the small fee of twenty-five cents to defray incidental expenses. Other clubs well established have larger fees and the sum that remains after programmes are printed, speakers paid, and other expenses met is used in establishing a mothers' club library. A list of books of special help to mothers, and not generally found in public libraries may be obtained through the literature committee of the National Congress of Mothers, by addressing Mrs. Harman H. Birney, 914 Belmont Avenue, Philadelphia. All club dues should be so low that no parent need feel embarrassed by being unable to meet them. It is profitable for small organizations to be in touch with others interested in the same problems, for affiliation brings inspiration and strength. It also affords opportunity for wider exchange of opinion, gives access to valuable literature, and may be the means of securing inspiring speakers. Affiliated clubs may obtain loan libraries from Mrs. E. O. Vinton, Washington, D. C. Any parents', mothers', or child study club may affiliate with both state and national organizations for the annual sum of three dollars or for ten cents per capita. Mrs. L. D. Doty, of 6030 Kimbark Avenue, Chicago, is State Treasurer in Illinois. Larger organizations have sometimes been formed by the combination of many clubs of the immediate vicinity. The South Side League of Parents' Clubs in Chicago is composed of sixteen school clubs. Each of these clubs has its own meetings and also takes part in this larger organization. The object of this league is "mutual counsel, unity of action in case of need, and the promotion and furtherance of the best educational methods." The League has the following committees: kindergarten, manual training, sewing, library, building and grounds, parks and playgrounds, neglected and dependent children, vacation schools and school visiting, programme and refreshments. Through such organizations more extensive work can be done than through the single club.

Those homes and schools that have co-operated have been strengthened. The homes have become more intelligent and more sympathetic concerning school life; mothers have become more frequent visitors at school; deeper insight into the problems of motherhood has resulted and in many instances a broader culture has been brought about. The Parents' and Citizens' Club of the Perkins Bass School in Chicago has an attendance of four hundred parents, representing sixteen nationalities. What a means of education this club will be to these parents! The schools have been helped by improving the condition of buildings and grounds. Unhygienic school buildings and apparatus have been removed and all conditions pertaining to the physical development of the child have been improved. The Parents' Club of the Lewis-Champlin School in Chicago purchased supplies for the pupils, such as tools, models for drawing, and reference books. Schoolrooms have been decorated and pictures, flags, and piano purchased. The Building and Grounds Committee of one organization induced the school board to purchase adjacent lots for a playground, and the club raised one hundred fifty dollars to equip the same. Through this relationship of home and school, the activities of the school have been extended. Kindergartens have been established and manual training and domestic science have been introduced. In all these instances the school board could not supply these improvements, but when parents were led to realize their children's needs, the funds were raised. This was done in one instance by an Industrial Exhibit and Sale, the children doing the work, being supervised by teachers and mothers. Fancy work of all kinds, burnt wood work, candy, jellies, ice cream and cake were offered for sale in various booths. An admission fee of ten cents was charged, the door receipts netting ninety dollars, and the sum of three hundred fifty dollars being cleared in all. The educational value of this exhibit was emphasized. In all instances the harmonious relation of home and school has improved the spirit and intellectual progress of tho school. Some teachers who have known something of this co-operation for years feel that they do not care to undertake their responsibility unless it is established and maintained, for by affording better means and conditions for his instruction the child is better understood and better taught. Hence since the co-operation of the home and the school would benefit the child, the school, and the home, it should be brought about. It is believed that this co-operation will ultimately become an integral part of educational work.

The aims and purposes of the National Congress of Mothers are stated as follows:

To raise the standards of home-life. To develop wiser, better-trained parenthood.

To give young people, ignorant of the proper care and training of children, opportunities to learn this, that they may better perform the duties of parenthood.

To bring into closer relations the home and the school, that parent and teacher may co-operate intelligently in the education of the child.

To surround the childhood of the whole world with that loving, wise care in the impressionable years of life, that will develop good citizens, instead of lawbreakers and criminals.

To use systematic, earnest effort to this end, through the formation of Mothers' Clubs in every Public School and elsewhere; the establishment of Kindergartens, and laws which will adequately care for neglected and dependent children, in the firm belief that united, concerted work for little children will pay better than any other philanthropic work that can be done.

To carry the mother-love and mother-thought into all that concerns or touches childhood in Home, School, Church, State, or Legislation.

To interest men and women to co-operate in the work for purer, truer homes, in the belief that to accomplish the best results, men and women must work together.

To secure such legislation as will insure that children of tender years may not be tried in ordinary courts, but that each town shall establish juvenile courts and special officers, whose business it shall be to look out for that care which will rescue, instead of confirm, the child in evil ways.

To work for such probationary care in individual homes rather than institutions.

To rouse the whole community to a sense of its duty and responsibility to the blameless, dependent, and neglected children, because there is no philanthropy which will so speedily reduce our taxes, reduce our prison expenses, reduce the expense of institutions for correction and reform.

The work of the Congress is civic work in its broadest and highest sense, and every man or woman who is interested in the aims of the Congress is cordially invited to become a member and aid in the organized effort for a higher, nobler, national life, which can only be attained through the individual homes.

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April 4, Tuesday	*Class Work begins*
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THE NORMAL SCHOOL BULLETIN

JANUARY 1, 1905

BIRD STUDY IN THE RURAL SCHOOL

BY

THOMAS L. HANKINSON, B. S.

Published Quarterly by the Eastern Illinois State
Normal School, Charleston, Ill., for Free Distribution

Normal School Bulletin

PUBLISHED BY THE EASTERN ILLINOIS STATE NORMAL SCHOOL

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CHARLESTON, ILLINOIS, JANUARY 1, 1905. No. 11.

BIRD-STUDY IN THE RURAL SCHOOL

By THOMAS L. HANKINSON, B. S.

The country school situated in a region rich in natural objects and with pupils many of whom are at the age when eagerness for knowledge of such objects is best developed, seems to be a place well adapted for nature-study. This subject is making its way but slowly, however, into the rural school curriculum. For this, there are several reasons, one of the chief of which is, that many country school teachers are not sufficiently acquainted with the objects in their natural environment to enable them to guide their pupils in such study. It is the purpose of this article to give the teacher of the rural school a few directions for an independent study of birds—a class of objects particularly well adapted for one who wishes to introduce nature-work into his school. The study of birds has to most pupils not only educational value, but also great interest, and it often proves an attractive gateway to the general field of biology. The kind of bird-study to which I refer in this article, is that which concerns not birds stuffed or caged, but free and living in their natural haunts.

It may seem impossible for a country school teacher, unaided as he is by a museum collection, a large library, or an instructor, to acquire much knowledge of birds, but these handicaps may be largely overcome by means of one or more of the several bird manuals recently published. Of these, I know of no better book than Chapman's "Bird-Life," colored plate edition, published by D. Appleton and Co., New York, and sold for $2.00. By means of this any teacher ought in a short time, perhaps in a single season, to become acquainted with about fifty of our common birds of Eastern Illinois. It is only the common birds that one should try to become familiar with at first; the rarer ones can then be learned more easily.

If possible, bird-study should be begun in the winter, for confusion caused by an abundance of species is then avoided. Opera or field glasses are a great aid in observing, but they are not indispensible. One should begin with the birds of his own home or school premises. The larger these grounds and the more trees and bushes upon them, the more birds one is likely to see there. In such places, judging from observations made about Charleston during the last two winters, I should think that the beginner ought to acquaint himself with at least the following species in Eastern Illinois in the course of the winter:

English Sparrow
Tree Sparrow
Junco
Song Sparrow
Cardinal
Blue Jay
Tufted Titmouse
Chickadee
Nuthatch
Downy Woodpecker
Hairy Woodpecker

If there is a grove of large trees near, Flickers, Red-headed Woodpeckers, and Red-bellied Woodpeckers may also be seen. PURPLE FINCHES and CEDAR WAXWINGS are about the yard and in orchards during some winter seasons. A trip to the open field will acquaint one with the PRAIRIE HORNED LARK, which also often comes to feed in the vicinity of the house or barn. From my experience in Eastern Illinois, I should say that the winter woods offer to the beginning student little in the way of bird-life that is not in the farm-yard. BOB-WHITES are found about the woods, but these are often seen in the open fields and sometimes about the barn-yard as well, if they are not frequently molested. CROWS are usually common in the woods and fields all winter.

One can easily increase the number of birds about one's premises in the winter by placing out food for them. Sweepings from the hay-loft will attract Tree Sparrows, Juncos, and other seed-eating birds. Crumbs, meat rinds, and pieces of suet placed upon some support above the ground, such as a veranda roof, will bring Nuthatches and Chickadees. Bones with some meat upon them, if tied to a tree trunk or limb, will furnish food for woodpeckers. A bird's life in winter is usually a hard struggle for food, and by supplying this need, the student is often repaid for his little trouble by the excellent chance he gains of observing bird ways.

All of the birds mentioned so far are described and some of them figured in Bird-Life, and the student will make a good beginning by learning to know even this small number during his first winter's study. By learning to know a bird, I do not mean simply finding out its name, though that is necessary as a first step in order that we may talk or write about it. By careful observation one may gather much information concerning any one species.* In fact each presents a field for investigation, the bounds of which no scientist has yet

*For an example of an excellent piece of work upon a single species, see "A Monograph on the Flicker," written by Frank L. Burns. This can be obtained by sending 50 cents to Lynds Jones, Oberlin, Ohio.

discovered; consequently it is possible even for the beginner to contribute to ornithology, new facts that are of real value in building up the science.

In the early spring the birds return from the south at a slow enough rate for the beginner to identify them, but after about the middle of April they come too rapidly for him. No discouragement need be felt, however, because all of the spring birds cannot be learned in one season. The species in the list here given, I think are common in all parts of Eastern Illinois at some time during the spring season, and I am sure that most of them can be seen and identified in this region by an enthusiastic student during his first spring of bird-study.

Acquaintances to be made during March and early April

Robin
Bluebird
Crow Blackbird
Red-wing Blackbird
Cowbird
Meadowlark
Mourning Dove
Brown Thrasher
Killdeer
Towhee
Goldfinch
White-throated Sparrow
Fox Sparrow
Field Sparrow
Vesper Sparrow
Kingfisher
Phoebe
Loggerhead Shrike
Brown Creeper

Acquaintances to be made in latter April and in May

Birds more common about the farm-yard or vicinity

Kingbird
Catbird
House Wren
Baltimore Oriole
Orchard Oriole
Chipping Sparrow
Purple Martin
Barn Swallow
Chimney Swift
Ruby-throated Hummingbird
Maryland Yellow-throat

Birds more common in the open field

Dickcissel
Lark Sparrow
Grasshopper Sparrow

Birds more common in the woodland

Scarlet Tanager
Rose-breasted Grosbeak
Wood Thrush
Myrtle Warbler
Crested Flycatcher
Wood Pewee
Indigo Bird
Oven Bird
Blue-grey Gnatcatcher
Yellow-billed Cuckoo
Yellow-breasted Chat
Red-eyed Vireo

When June comes, the student will probably do little more in the way of identification of species, but he can spend his time to advantage in studying the habits of a number of the birds whose acquaintances he made in the winter and spring. The song and nesting season for most species is at its height in June. Then the woods and fields should be searched for nests, and when one is found, it should not be disturbed in any way. It is hardly necessary to say that the eggs should not be removed or handled. Many birds are very timid about their nests and often they will desert them, eggs and all, if they find that they have been discovered. For this reason the observer should use great care and approach the nest as little as possible. He should secrete himself at a convenient distance with note-book and with opera glasses, if he has them, and then watch and take notes. Much can be learned in this way about the bird's domestic habits, such as its manner of caring for nest, eggs, and young, the amount and kind of food provided for the latter, the time required for incubation, the period of occupancy of the nest by the young birds, and the relative amount and kind of attention given to nesting affairs by each parent. The development of plumage on nestlings is a subject of especial interest. If a series of photographs of the growing young can be made without interfering too seriously with the home life of the parent birds, it will prove of much interest and value to the student. After the young birds have left the nest, its structure and position can be studied at close range. It may then be handled or even removed, for the birds have no further use for it.*

As the summer goes on, bird-life becomes less and less conspicuous. The nesting season is over. The songs of many species cease. The molting process takes place, and plumages become ragged and often much changed in color, thus making some birds difficult to recognize. In the fall, however, there is a revival to activity on the part of a number of species. Flocks are formed, and a few birds have a season of song before departing on the southward journey.

Although the spring and early summer offer more attractions to the bird student than other seasons do, still there is something about them to be learned from nature at all times of the year and at all times of the day. Even at night we are often reminded of birds by their notes. The Whip-poor-will makes known his presence by his call only at that time. Some diurnal birds may also be heard at night, especially during the migrating seasons. At such times birds which travel after dark often fly low, more usually when the weather is rainy or foggy, and many species can then be identified by their calls.

As far as possible, knowledge of birds should be obtained at first hand—that is, by direct observation from nature, but there is much about them that can not be learned in this way. Consequently reading should be done upon the general subject of ornithology, on which there are many excellent books. Without trying to discuss this literature, I will simply mention three that I think every bird-lover should read.

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*A student of bird nests will do well to get a copy of "Bird Homes," by A. C. Dugmore, published by Doubleday, Page, McCure & Co., New York. Price $2.00. This contains many fine descriptions and excellent illustrations of nests and eggs and young birds.

"Birds through an Opera Glass," by Florence A. Merriam. Published by Houghton, Mifflin & Co., New York. Price 75 cts.

"A Year with the Birds," by Wilson Flagg. Published by the Educational Publishing Co., Boston. Price $1.00.

"The Story of the Birds," by James Newton Baskett. Published by D. Appleton & Co., New York. Price 65 cts.

Every bird-student should subscribe for a little magazine called "Bird-Lore," which is published by the Macmillan Co., Harrisburg, Pennsylvania. Subscription price $1.00 a year.

After a year's study of birds, if not before, a teacher will probably want a field manual that is more complete than "Bird-Life." I should advise, then, the purchasing of Chapman's "Handbook of Birds of Eastern North America." This is published by Appleton & Co., New York. Price of flexible-cover pocket edition, $3.50; cloth edition, $3.00. It contains good descriptions of plumages of male, female, and young of every species in Eastern North America; it has, moreover, many good descriptions of habits, besides valuable suggestions for the bird student. Recently Mr. Chapman with Mr. Reed has published a "Color Key to North American Birds" (Doubleday, Page & Co. Price $2.50). This contains many figures, which with the descriptions, to a great extent simplify identification.

After the teacher has made some progress in the study of birds, he should introduce the subject to his pupils. Little effort will be needed to arouse an interest, for it is present already in most children. Care must be taken, however, especially with the boys, to keep the interest properly directed. It should be toward live and free birds and not toward those killed with his gun, and toward eggs undisturbed in the nest, and not toward their empty shells in his curiosity collection.

A love for the *living* bird should constantly be stimulated by the teacher. This can be done by proper management of the bird work. Before the minds of the pupils facts concerning the value of birds to man from an economic as well as from an aesthetic standpoint should be presented often. The celebration of a bird day has been tried by many schools with success.* The making of bird boxes, preparation of food charts and blackboard bird lists, are all good ways of instructing and interesting children in this subject.†

Ornithology need not have a regular place in the daily curriculum of the school. It may be indulged in at times for the purpose of resting the minds of the pupils from book work. As the subject is studied for the most part out-of-doors and much fresh air and exercise are involved in its pursuit, it may be considered as one of the school recreations as well as one of its studies.

What will result from the study of birds in the rural school? In the first place, the pupil's power of observation and aesthetic sense will certainly be cultivated, and a love for birds will be aroused that should cause him always to use his influence for their protection. It is protection that the birds need, for they are becoming less numerous over the greater part of the United States.‡ Mr. Hornaday estimates from much data received from reliable observers from various parts of this state, that the birds had decreased 38 per cent in Illinois during the fifteen years prior to 1901. What are the effects of this destruction of birds? The most important of the natural enemies of harmful insects are being removed, and crops are likely to be injured to an in-

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*For suggestions concerning a bird day, send 35 cts. to Silver, Burdett & Co., Chicago, for a little book entitled "Bird Day and How to Prepare for It."

†See chapters on bird-study in Hodge's "Nature Study and Life," published by Ginn & Co., Boston and Chicago. Price $1.50.

‡See a paper entitled "The Destruction of Our Birds and Mammals," by W. T. Hornaday, published by the New York Zoological Society, 11 Wall St., New York. Price 15 cts.

insects cause a loss of two hundred millions of dollars yearly to agricultural interests in the United States. Prof. S. A. Forbes, who has been studying both the birds and insects of Illinois for many years, says, "It is true, * * * in my judgment, that the insects of the state of Illinois derive as large a profit from the agriculture of this great state as do the farmers themselves. It is probably true that they cost the state at least half as much as the whole system of public schools." Birds also do good in many other ways. Hawks and owls catch field mice, which as every farmer knows, are very destructive to crops. In fact, ornithologists have shown that these are among the most useful of all birds to the farmers. It is true that chickens are killed now and then and song birds are to some extent destroyed by these birds-of-prey, but there are only two species common in Illinois that do more harm than they do good. These are the little Sharp-shinned Hawk and its close relative, the Cooper's Hawk. Birds are also useful as scavengers. At one time in Yucatan, there was great mortality among the inhabitants. This was traceable directly to the killing of gulls and some other sea-birds that feed upon floating refuse material and thus prevent its accumulation to decompose upon the shores.

What are the causes for this decrease in bird-life? Mr. Hornaday enumerates eighteen, in all of which man is the principal factor. Ignorance seems to be the chief cause of man's actions in each case. Few girls would wear bird plumage on their hats if they knew of the great amount of bird destruction which, in many cases, they are causing by so doing. A boy would not be likely to shoot a song bird if he knew its real value in dollars and cents. It is knowledge, then, that is needed, and this is especially required by the farmer, who is probably more directly benefitted by bird protection than anyone else. It seems to me that the rural school teacher is creasing extent by the pests. Entomologists estimate that in an excellent position to impart to farmers, at least to those of the future generation, a knowledge of the value of birds* and how to protect them.†

The pleasure that accompanies bird-study will in most cases insure its continuance. I have never yet known a person to give up this subject when he had begun it with any degree of earnestness and when conditions were favorable for its pursuance, and I am sure that if the country school teacher and his pupils will find a few hours each week for studying these creatures they will have the same enjoyment and the same mental benefit as other students of birds have had; and there will result a better protection for the birds, which are not only beautiful and interesting but are also of such importance to us that, as scientists have shown, our existence would be impossible without them.

*Every teacher should read "Birds in Their Relation to Man," by C. M. Weed, published by Lippincott & Co., Boston. Price $2.50.

†On means of protecting birds and encouraging their presence about the school or home, see "Our Native Birds," by A. Lang, published by the Macmillan Co., New York. Price $1.00.

See also "How to Attract the Birds," by Neltje Blanchan, published by Doubleday, Page & Co., New York. Price $1.25.

Illinois teachers should send 25 cents to Miss Mary Drummond, Secretary of the Illinois Audubon Society, Wheaton, Ill., for literature upon bird-protection.

WILLIAM MONROE EVANS, B. S., LITT. D.

TEACHER IN

The Eastern Illinois State Normal School

September, 1899 to November, 1904

Born October 18, 1859.

Died November 27, 1904.

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1905

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Compliments of
T. L. Hankinson.

THE NORMAL SCHOOL BULLETIN

APRIL 1, 1905

BIRD STUDY IN THE RURAL SCHOOL

BY

THOMAS L. HANKINSON, B. S.

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If possible, bird-study should be begun in the winter, for confusion caused by an abundance of species is then avoided. Opera or field glasses are a great aid in observing, but they are not indispensable. One should begin with the birds of his own home or school premises. The larger these grounds and the more trees and bushes upon them, the more birds one is likely to see there. In such places, judging from observations made about Charleston during the last two winters, I should think that the beginner ought to acquaint himself with at least the following species in Eastern Illinois in the course of the winter:

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If there is a grove of large trees near, Flickers, Red-headed Woodpeckers, and Red-bellied Woodpeckers may also be seen. Purple Finches and Cedar Waxwings are about the yard and in orchards during some winter seasons. A trip to the open field will acquaint one with the PRAIRIE HORNED LARK, which also often comes to feed in the vicinity of the house or barn. From my experience in Eastern Illinois, I should say that the winter woods offer to the beginning student little in the way of bird-life that is not in the farmyard. BOB-WHITES are found about the woods, but these are often seen in the open fields and sometimes about the barnyard as well, if they are not frequently molested. CROWS are usually common in the woods and fields all winter. The SPARROW HAWK and a few other birds of prey may be identified during this season.

One can easily increase the number of birds about one's premises in the winter by placing out food for them. Sweepings from the hayloft will attract Tree Sparrows, Juncos, and other seed-eaters. Crumbs, meat rinds, and pieces of suet placed upon some support above the ground, such as a veranda roof, will bring Nuthatches and Chickadees. Bones with some meat upon them, if tied to a tree trunk or limb, will furnish food for Woodpeckers. A bird's life in winter is usually a hard struggle for food, and by supplying this need the student is often repaid for his little trouble by the excellent chance he gains of observing bird ways.

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*For an example of an excellent piece of work upon a single species, see "A Monograph on the Flicker," written by Frank L. Burns. This can be obtained by sending 50 cents to Lynds Jones, Oberlin, Ohio.

In the early spring the birds return from the south at a slow enough rate for the beginner to identify them, but after about the middle of April they come too rapidly for him. No discouragement need be felt, however, because all of the spring birds cannot be learned in one season. The species in the list here given, I think, are common in all parts of Eastern Illinois at some time during the spring season, and I am sure that most of them can be seen and identified in this region by an enthusiastic student during his first spring of bird-study.

Acquaintances to be made during March and early April

Robin
Bluebird
Crow Blackbird
Red-wing Blackbird
Cowbird
Meadowlark
Mourning Dove
Brown Thrasher
Killdeer
Towhee
Goldfinch
White-throated Sparrow
Fox Sparrow
Field Sparrow
Vesper Sparrow
Kingfisher
Phoebe
Loggerhead Shrike
Brown Creeper
Carolina Wren

Acquaintances to be made in later April and in May

Birds more common about the farmyard or vicinity

Kingbird
Catbird
House Wren
Baltimore Oriole
Orchard Oriole
Chipping Sparrow
Maryland Yellow-throat
Purple Martin
Barn Swallow
Yellow-bellied Sapsucker
Chimney Swift
Ruby-throated Hummingbird

Birds more common in the open field

- Dickcissel
- Lark Sparrow
- Grasshopper Sparrow
- Savanna Sparrow

Birds more common in the woodland

- Scarlet Tanager
- Summer Tanager
- Rose-breasted Grosbeak
- Wood Thrush
- Myrtle Warbler
- Crested Flycatcher
- Wood Pewee
- Indigo Bird
- Oven Bird
- Blue-grey Gnatcatcher
- Yellow-billed Cuckoo
- Yellow-breasted Chat
- Red-eyed Vireo

When June comes, the student will probably do little more in the way of identification of species, but he can spend his time to advantage in studying the habits of a number of the birds whose acquaintances he made in the winter and spring. The song and nesting season for most kinds is at its height in June. Then the woods and fields should be searched for nests, and when one is found, it should not be disturbed in any way. It is hardly necessary to say that the eggs should not be removed or handled. Many birds are very timid about their nests and often they will desert them, eggs and all, if they find that they have been discovered. For this reason the observer should use great care and approach the nest as little as possible. He should secrete himself at a convenient distance with note-book and with opera glasses, if he has them, and then watch and take notes. Much can be learned in this way about the bird's domestic habits, such as its manner of caring for nest, eggs, and young, the amount and kind of food provided for the latter, the time required for incubation, the period of occupancy of the nest by the young, and the relative amount and kind of attention given to nesting affairs by each parent. The development of plumage on nestlings is a subject of especial interest. If a series of photographs of the growing young can be made without interfering too seriously with the home life of the parent birds, it will prove of much interest and value to the student. After the young have left the nest, its structure and position can be studied at close range. It may then be handled or even removed, for the birds have no further use for it.*

As the summer goes on, bird-life becomes less and less conspicuous. The nesting season is over. Most songs cease. The molting process takes place, and plumages become ragged and often much changed in color, thus making some birds difficult to recognize. In the fall, however, there is a revival to activity on the part of a number of species. Flocks are formed, and a few birds have a season of song before departing on the southward journey.

Although the spring and early summer offer more attractions to the bird student than other seasons do, still there is something about them to be learned from nature at all times of the year and at all times of the day. Even at night we are often reminded of birds by their notes. The Whip-poor-will makes known his presence by his call only at that time. Some diurnal birds may also be heard at night, especially during the migrating seasons. At such times those which travel after dark often fly low, more usually when the weather is rainy or foggy, and many species can then be identified by their calls.

As far as possible, knowledge of birds should be obtained at first hand—that is, by direct observation from nature, but there is much about them that can not be learned in this way. Consequently reading should be done upon the general subject of ornithology, on which there are many excellent books. Without trying to discuss this literature, I will simply mention three that I think every bird-lover should read.

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*A student of bird nests will do well to get a copy of "Bird Homes," by A. C. Dugmore, published by Doubleday, Page, McClure & Co., New York. Price $2.00. This contains many fine descriptions and excellent illustrations of nests and eggs and young birds.

"Birds through an Opera Glass," by Florence A. Merriam. Published by Houghton, Mifflin & Co., New York. Price 75 cts.

"A Year with the Birds," by Wilson Flagg. Published by the Educational Publishing Co., Boston. Price $1.00.

"The Story of the Birds," by James Newton Baskett. Published by D. Appleton & Co., New York. Price 65 cts.

Every student should subscribe for a little magazine called "Bird-Lore," which is published by the Macmillan Co., Harrisburg, Pennsylvania. Subscription price $1.00 a year.

After a year's study of birds, if not before, a teacher will probably want a field manual that is more comprehensive than "Bird-Life." I should advise, then, the purchasing of Chapman's "Handbook of Birds of Eastern North America." This is published by Appleton & Co., New York. Price of flexible-cover pocket edition, $3.50; cloth edition, $3.00. It contains good descriptions of plumages of male, female, young, eggs, and nests of nearly every species in Eastern North America; it has, moreover, many good descriptions of habits, besides valuable suggestions for the bird student. Recently Mr. Chapman with Mr. Reed has published a "Color Key to North American Birds" (Doubleday, Page & Co. Price $2.50). This contains many figures, which, with the descriptions, to a great extent simplify identification.

After the teacher has made some progress in the study of birds, he should introduce the subject to his pupils. Little effort will be needed to arouse an interest, for it is present already in most children.* Care must be taken, however, especially with the boys, to keep the interest properly directed. It should be toward live and free birds and not toward those killed with his gun, and toward eggs undisturbed in the nest, and not toward their empty shells in his curiosity collection.

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*See F. M. Chapman on "Educational Value of Bird Study," Educational Review, volume 17, pages 242-249.

A love for the *living* bird should constantly be stimulated by the teacher. This can be done by proper management of the work. Before the minds of the pupils facts concerning the value of birds to man from an economic as well as from an aesthetic standpoint should be presented often. The celebration of a bird day has been tried by many schools with success.* The making of nesting boxes, preparation of food charts and blackboard lists, are all good ways of instructing and interesting children in this subject.†

Ornithology need not have a regular place in the daily curriculum of the school. It may be indulged in at times for the purpose of resting the minds of the pupils from book work. As the subject is studied for the most part out of doors and much fresh air and exercise are involved in its pursuit, it may be considered as one of the school recreations as well as one of its studies.

What will result from the study of birds in the rural school? In the first place, the pupil's power of observation and aesthetic sense will certainly be cultivated, and a love for birds will be aroused that should cause him always to use his influence for their protection. It is protection that the birds need, for they are becoming less numerous over the greater part of the United States.‡ Mr. Hornaday estimates, from much data received from reliable observers from various parts of this state, that the birds had decreased 38 per cent. in Illinois during the fifteen years prior to 1901. What are the effects of this destruction of birds? The most important of the natural enemies of harmful insects are being removed, and crops are likely to be injured to an increasing extent by these pests. Entomologists estimate that insects cause a loss of two hundred millions of dollars yearly to agricultural interests in the United States. Prof. S. A. Forbes, who has been studying both the birds and insects of Illinois for many years, says, "It is true, * * * in my judgment, that the insects of the state of Illinois derive as large a profit from the agriculture of this great state as do the farmers themselves. It is probably true that they cost the state at least half as much as the whole system of public schools." Birds also do good in many other ways. Hawks and owls catch field mice, which every farmer knows are very destructive to crops. In fact, ornithologists have shown that these are among the most useful of all birds to the farmers. It is true that chickens are killed now and then and song birds are to some extent destroyed by these birds of prey, but there are only two kinds of hawks common in Illinois that do more harm than they do good. These are the little Sharp-shinned Hawk and its close relative, the Cooper's Hawk. Birds are also useful as scavengers. Our Turkey Vulture, commonly called the "Buzzard" in this region, does much good in this respect, especially in the south where it is abundant.

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*For suggestions concerning a bird day, send 35 cts. to Silver, Burdett & Co., Chicago, for a little book entitled "Bird Day and How to Prepare for it."

†See chapters of bird-study in Hodge's "Nature Study and Life," published by Ginn & Co., Boston and Chicago. Price $1.50.

‡See a paper entitled "The Destruction of Our Birds and Mammals," by W. T. Hornaday, published by the New York Zoological Society, 11 Wall St., New York. Price 15 cts.

What are the causes for this decrease in bird-life? Mr. Hornaday enumerates eighteen, in all of which man is the principal factor. Ignorance seems to be the chief cause of man's actions in each case. Few girls would wear bird plumage on their hats if they knew the great amount of bird destruction which, in many cases, they are causing by so doing. A boy would not be likely to shoot a song bird if he knew its real value in dollars and cents. It is knowledge, then, that is needed, and this is especially required by the farmer, who is probably more directly benefited by bird protection than anyone else. It seems to me that the rural school teacher is in an excellent position to impart to farmers, at least to those of the future generation, a knowledge of the value of birds* and how to protect them.†

The pleasure that accompanies bird-study will in most cases insure its continuance. I have never yet known a person to give up this subject when he had begun it with any degree of earnestness and when conditions were favorable for its pursuance, and I am sure that if the country school teacher and his pupils will find a few hours each week for studying these creatures they will have the same enjoyment and the same mental benefit as other students of this subject have had; and there will result a better protection for the birds, which are not only beautiful and interesting, but are also of such importance to us that, as scientists have shown, our existence would be impossible without them.

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*Every teacher should read "Birds in Their Relation to Man," by C. M. Weed, published by Lippincott & Co., Boston. Price $2.50

†On means of protecting birds and encouraging their presence about the school or home, see "Our Native Birds," by A. Lang, published by the Macmillan Co., New York Price $1.00

See also "How to Attract the Birds," by Neltje Blanchan, published by Doubleday, Page & Co., New York. Price $1.25.

Illinois teachers should send 25 cents to Miss Mary Drummond, Secretary of the Illinois Audubon Society, Wheaton, Ill., for literature upon bird-protection.

Announcements for the summer session of the school, June 19 to July 28, will be issued about April 10. The courses on the State Course of Study, which were introduced last year, will be repeated, and Mr. Thomas M. Balliet, Dean of the School of Pedagogy of the University of the City of New York, will give a course of lectures. Any detailed information not contained in the circular may be had by addressing President L. C. Lord.

The School Calendar

Spring Term

Eleven Weeks

1905

April 4, Tuesday	*Class work begins*
June 16, Friday	*Spring Term ends*

Summer Term

Six Weeks

1905

June 19, Monday	*Classification. Class work assigned at 4 P. M.*
July 28, Friday	*Summer Term ends*

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PHYSICS IN THE HIGH SCHOOL

BY

ALBERT B. CROWE, A. M.

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PHYSICS IN THE HIGH SCHOOL

By ALBERT B. CROWE, A. M.,
Instructor in Physics and Chemistry.

In the following discussion of certain problems which confront the teacher of physics in the secondary school, the writer wishes merely to call attention to certain matters, a clearer comprehension of which he now sees would have been helpful to him at the beginning of his teaching experience. It is obvious that in treating the subject to this end, many things which are already established must be mentioned, and many points discussed which have been thoroughly debated for years past. It must be remembered, however, that these old questions are recurringly new to a large body of teachers each year. Perhaps it is not presumptuous to hope, therefore, that an attempt to state and answer them may be of value to someone.

To the teacher of physics in the secondary school three matters are of especial and vital interest. They are: (1) the position of physics in the course of study; (2) the selection of the subject-matter to be presented; and (3) the method of instruction to be pursued.

I. The Position of Physics in the Course of Study

Practically all our high schools are today giving a one-year course in physics. In which one of the four years of the high school should this subject be presented? Under present conditions the most sensible and practical answer to this question is obtained from a general consideration of all the science work offered and the determination of the best sequence for these subjects. At the same time some attention must be given to the position of other subjects which have a value in the development of any science.

There has come to exist a general belief that the physical should follow the biological sciences in the high school. This view is held with practical unanimity by the teachers of both of these groups of the sciences, so that by general consent physics and chemistry have come to occupy the third and fourth years of the high school courses.

The question, which one of these subjects should precede the other, has also with the majority of teachers passed the stage of discussion, and the view is commonly held that physics should come in the third and chemistry in the fourth or last year. Some, however, think it desirable to reverse this order and make physics the last science to be encountered.

From the standpoint of the physics teacher, there is certainly much to be said in defense of the latter arrangement, which enables the student to attack the really difficult subject of physics when amply prepared in mathematics and at the time of his greatest mental development. In the epoch-making report of the Committee of Ten, published in 1894, the sub-committee on physical sciences recommended that chemistry precede physics. It is explicitly stated that the committee realized that the order recommended is "plainly not the logical one," but that the recommendation was made in order that students "should have as much mathematical knowledge as possible to enable them to deal satisfactorily with physics." It should be remembered, however, that in the ten years which have elapsed since this report was made, the beginning work in algebra has been shifted from the first year in the high school to the eighth grade, and much of geometry which then was given in the third year is now taught in the second year of the high school course. The specific reason given by the committee for placing physics in the last year has, therefore, much less force today than at the time the recommendation was made.

Moreover, even at that time the committee was not unanimously in favor of the order it recommended, and Prof. Waggoner, in a minority report, opposed his colleagues on what seem excellent psychological grounds. His minority report says:

> "Admitting, of course, the deep mystery which underlies and limits all kinds of knowledge alike, it is still true that a great part of the body of knowledge called physics relates to phenomena wherein the bodies concerned are distinctly perceptible, and their behavior is also directly perceptible to the senses at every stage of the phenomenon.
>
> "The behavior of the parts of matter concerned in chemical changes is inferred, not observed. And the conceptions of it are less simple than those of even molecular physics.
>
> "The rational study of chemical phenomena is therefore of a higher order of difficulty than those of physics. To make the study of chemical theory as little artificial and as much rational as possible and to secure intelligent conceptions of its many and close relations to physical laws, a previous training in the conceptions and measurements of such fundamental quantities as mass, density, specific gravity, heat, specific heat, and others would seem practically indispensable. In fact, it seems not unreasonable to suggest that the whole subject of elementary physics forms a desirable basis for the study of the elements of chemistry. On the other hand, a knowledge of elementary chemistry is to but a small extent helpful in getting the knowledge of physics expected from a high school course."

Since all direct observations in chemistry are concerned with physical changes, it is apparent that much of physics must precede chemistry, and if the latter subject precedes the former in the course of study, the teacher must sacrifice much time in teaching the principles of physics in his chemistry classes. Economy of time, then, would seem to require giving the regular course in physics before that in chemistry.* It seems best, on the whole, where one-year courses are offered in both physics and chemistry, that physics should come in the third and chemistry in the fourth year. In schools not offering chemistry, physics may well be placed in the last year, unless an optional advanced course in physics is planned. In such case it is obvious that the elementary course must come in the third year.

It may be well in conclusion to reassert that the drift of opinion is toward the precedence of physics. Numerous state associations of physics and other science teachers have passed resolutions recommending the placing or retention of physics in the third year. At the last meeting of the physics section of the Central Association of Science and Mathematics Teachers, held in Chicago last November, such a resolution was offered and carried by a unaminous vote.†

II. The Selection of Subject-Matter

Much complaint has been made of the difficulty of physics. The conviction is growing, however, in the minds of good teachers of the subject that much of this alleged difficulty is due to the common attempt to cover too much ground in the time available, rather than to anything inherent in the subject. A year and a half at least is necessary for a thorough course in elementary physics if no part of the subject is slighted. Since in most schools only one year is given to this subject, the teacher encounters a serious problem when he comes to plan his year's work. He must decide whether to push impartially through the subjects of mechanics, heat, sound, light, and electricity, giving to all approximately equal emphasis and time, or to select certain subjects for more intensive and extensive study than others. If the latter plan is chosen, as it should be, the order in which these subjects shall be taken must be decided, and also what proportion of the whole time available should be given to each subject.

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*This subject is fully and ably discussed by Alexander Smith in the "Teaching of Chemistry and Physics," by Smith & Hall; Longmans, Green & Co., 1902. This book is invaluable to teachers of chemistry and physics and has already had a marked and beneficent effect upon the teaching of these subjects in secondary schools.

†See School Science, January, 1905, for the report of the meeting of this section.

By common consent the fundamental subject of mechanics will be given precedence over sound, light, heat, and electricity, both in the order of presentation and in the matter of time. A full half-year's work is needed for a proper development of mechanics, if an adequate amount of laboratory work is given. Unfortunately it is not practicable to give so much time to one subject, but at least forty per cent. or sixteen of the forty weeks of the school year should be devoted to mechanics. It should be borne in mind that time well-spent here saves time and confusion during the rest of the year.

But when the choice of other subjects to receive especial attention is discussed, we find a great diversity of opinion among teachers. Some hold that sound and light should immediately follow mechanics; others, that they should not come until after the study of heat and electricity. The question really does not seem a vital one. Any one of these subjects offers an admirable field for the application of the principles of the fundamental subject of mechanics. Most teachers will agree, however, that no great amount of time should be devoted to sound and light in a one-year physics course. A series of talks by the instructor, illustrated with numerous lecture-table experiments, will make these subjects intelligible and interesting and yet allow the anxious teacher, hard pressed for time, to cover this part of the year's work in a few weeks. Fifteen per cent. of the year may be given to sound and light and forty-five per cent. will still remain for heat and electricity.

The apportioning of this time to the two subjects will depend largely upon the point of view of the teacher. If the utilitarian value of the subject-matter appeals strongly to him, he will probably give nearly the whole of the available time to work in electricity; for "this is the age of electricity," and the information gained is very "practical." If, on the other hand, the development of scientific method and mental power is his greatest consideration, he may well give to the study of heat a large fraction of the time at his disposal.

In deciding how much time to give to heat, he should be influenced to some extent by the position of chemistry in the school course. If it follows physics, the careful study of heat will be of especial value as a basis for chemistry. The student in chemistry will need clear conceptions of temperature, the effect of heat upon gas volumes, specific heat, heat of fusion and vaporization, and other energy changes involving heat. If these matters have been neglected or hurried over in physics, much valuable time will of necessity be taken for them from that allotted to chemistry. It may be said truthfully that electricity and light are more or less closely related to chemistry and are needed in the study of that subject. But they come into contact with general chemistry less frequently and in a less fundamental way than does heat.

Apart from its value as a tool in further scientific work, a number of strong reasons exist for giving emphasis to heat in a one-year course.

1. The modern conception of the conservation and transformation of energy was originally inspired by some simple experiments in heat. To this day there is no other road to correct notions of energy changes which is so direct and so

easily followed as that blazed out by the pioneers, Rumford and Davy, Mayer and Joule.

2. The subject of heat furnishes a number of definite concrete problems suitable for individual laboratory work. No problems ordinarily given in elementary laboratory courses require more consistent carefulness than those in calorimetry. Numerous sources of error must be guarded against and vigorous thinking must be done during these operations. Such problems successfully accomplished bring to the student a grasp of the principles involved and a sense of power that cannot fail to stimulate and inspire him.

3. The subject of heat is rich in problems involving deductive reasoning of no mean order, and thus furnishes unsurpassed material for the development of clear and logical thinking.

Should especial prominence be given to heat for the reasons mentioned or others, twenty per cent. of the year's work will be required for it. This will leave one-fourth of the year for work in magnetism and electricity. While a half year at least should be given to this broad subject if the time were available, nevertheless, ten weeks' work, if judiciously chosen, will suffice to give the student clear notions of many of its elements, and will make further reading and study intelligible to him. Opinions vary among teachers as to whether this time should be given principally to theoretical electricity or to the study of practical electrical devices and machines, and as to the character and quantity of the accompanying laboratory work.

The following order of subjects with the time to be given to each, in a year of forty weeks, seems at least as good as any other. (1) Mechanics of solids and fluids, sixteen weeks; (2) Heat, eight weeks; (3) Sound, three weeks; (4) Light, three weeks; (5) Magnetism and Electricity, ten weeks.

III. The Method of Instruction

The introduction of individual laboratory work in physics came some years after that in chemistry. In the past, the experimental work upon which the science of physics is based, in so far as it was repeated, was performed by the instructor before his classes. Such experiments furnished the basis for lectures, and this work was supplemented with study of the text-book. The past twenty years, however, has seen the general introduction of laboratory work of various kinds, and there is no question in the minds of competent judges as to the genuine value of much of the individual experimentation which the new method involves.

The need of such work became evident as the material selected for the teaching of physics became increasingly quantitative in character. So long as mere demonstration of simple and striking phenomena was attempted there was little difference from the pedagogical standpoint, whether the teacher or the student arranged the details and conditions of the experiments. On the other hand, it was possible greatly to economize time and apparatus by using the demonstration method. As the demand for individual laboratory work grew louder and stronger, however, much of this demonstration was transferred to the laboratory. About this time manuals of experiments sprung up in profusion, insisting generally on a more or less strictly "inductive" method of treatment of the subject. Many absurdities appeared; among others, the giving of detailed directions for the performance of simple things of every-day experience, such as "rubbing a match on a piece of sand-paper and noticing the effect." The pitiable weakness of much of the suggested work was apparent from the start, and series of experiments were gradually devised and adopted which met the true ends of laboratory work. In the meantime most of the old qualitative experiments drifted back into the demonstration work, where they very largely belong.

The problems now used in the laboratory are mainly quantitative in character. In addition to giving the benefits which came from the individual performance of the somewhat simpler qualitative experiments, they are believed to be of great value in teaching the necessity for carefulness and accuracy. They also give some notion of the tremendous amount of painstaking labor expended in gathering data upon which great inductions are based, and by means of which these inductions are verified and come to have the dignity and authority of our so-called "physical laws." Thus laboratory work has become rationalized, and by giving a training in correct scientific method meets a need which the older methods of teaching did not recognize.

It must be insisted, however, that the old and new methods are supplementary to each other and that neither is sufficient by itself. The attitude of contempt for the older demonstration and text-book methods, which is often encountered even now, is therefore absurd and to be deplored. It is probable that a fair knowledge of the general subject-matter of physics is more readily gained by the older methods alone than by that of individual experimentation alone. But the happiest results come from a combination of these various forms of attack, and anything else is now generally condemned.

In the discussion of the method of attack of quantitative physical problems, much confusion has arisen from a failure to distinguish clearly between two quite distinct classes of these problems. An examination of the experiments suggested by various authoritative committees and offered in our best laboratory manuals reveals one class of exercises whose object is the determination of certain physical constants or the measurement of physical quantities, and another class intended to establish physical laws. The question of the attitude of the student, as to whether he should "discover" or "verify" the truth which a given problem is to reveal, and as to some "fore-knowledge of the principle involved" is plainly not pertinent to the former class. The measurement of extension and mass with the determination of densities, the measurement of temperatures and heat quantities, of velocity of sound in various substances, and of electrical and magnetic pressures and resistances are examples of this kind of experimentation. In every such case, previous knowledge of the elements involved in the problem and of their relationship is necessary, for without such knowledge the problem is vague and meaningless to the student.

In this connection it may be said that a study of the construction and use of an instrument of precision, such as the micrometer screw or verniered caliper, is not, properly speaking, a problem in physics. The measurement of extension by means of such an instrument is, however, a physical problem. While the mastering of the principle of the instrument may be more difficult than the measuring process which follows, the former process should be treated as distinct from the latter, and recorded as a preliminary exercise.

Concerning the attitude of the student to problems which help to establish physical laws, much has been said. The general belief seems to be that the student should not be forced into the attitude of merely verifying laws which he has learned previously from some authoritative source, but that he should attack such problems with only such knowledge of the principles involved and such directions for carrying out the work as are necessary for its intelligent performance without an unreasonable expenditure of time and energy. To illustrate this point the problem devised to show the "law of lengths" of the pendulum may be considered. It is absurd to give the student an adjustable pendulum and ask him "to discover the laws of the pendulum." On the other hand, it is not wise to ask him to prove that the period of vibration of a pendulum varies as the square root of its length. In the first case the whole problem would be vague and "up in the air;" in the second case the work would be definite and tangible enough, but there would be constant temptation to make the observed results tally with those obtained deductively by a use of the law. The rational method of procedure seems to be to ask the student to find the period of vibration of his pendulum for each of a number of different lengths and determine whether any relation exists between these lengths and periods. Having discovered and stated this relation, the student could, with profit, repeat the experiment, using a new set of lengths, first computing the periods from his proposed law and then finding these periods experimentally, each result serving to verify his law. Thus he would employ both inductive and deductive reasoning and follow the necessary steps that occur in the final establishment of any physical law.

One other method of attacking this problem is possible. The instructor can perform the first part of the work just described before his classes. Taking lengths that are perfect squares he can determine with the class the period of vibration for each length. The class will soon detect the general relation between these quantities. The class may then be told to test this induction rigidly, using a large number of lengths, and to determine whether the law is "exactly" or only approximately true. This subterfuge to avoid working to theoretical results is often absolutely necessary, as students quite frequently know enough of the law that is sought to enable them to forecast results. No good reason exists, however, for a feeling of abhorrence, such as appears in some quarters, for the term "verification," or for avoiding exercises involving the verification of laws, as every natural law has been finally established only after being tried and verified by experiments in almost endless detail.

There are, indeed, some problems commonly given in laboratory classes in which it seems best candidly to abandon the attitude of research and seek only to verify the laws as established by others. For example, with the time available and the form of apparatus in most common use today—some form of Atwood's machine—it is practically impossible to get results from which the inductions known as the laws of falling bodies can be fairly derived. It is possible, however, with such apparatus, to show quickly that these laws are at least approximately true, and this exercise of verification seems valuable although it does fail to "exercise the scientific imagination." It is true that this problem can be performed by the teacher in the lecture-room; and perhaps nothing is lost by such a transfer.

But in so far as possible, without too great sacrifice of time, laboratory problems should involve simple inductive reasoning, and students should be seeking to discover the relations existing between their data, rather than to verify what others have said these relations to be. And where the laboratory work does follow instead of preceding the learning of the principle or law involved, it must be insisted upon that the experimental demonstration by the instructor in introducing the principle be complete enough to serve as a basis for belief in it.

It is desirable, if not indispensable, that laboratory work be given in double periods. Many problems are too long and complex to be performed in a single period, and it is fatal to good results to carry a problem involving careful measurements and connected reasoning over from one day to another. Moreover, experience shows that there is considerable economy of time in taking two consecutive and unbroken periods of work.

It is generally recommended that two days each week be given to laboratory work and three to the class room. With two double periods in the laboratory each week it is possible to give a sufficient amount of work in a very thorough manner. It is true that many excellent schools have only one double period in the laboratory each week and get good results, for good results from laboratory work depend more on the quality than the quantity of the work performed by the student. For a good training in scientific method, however, it is necessary to cover considerable ground; and the student should not be too greatly hurried in his work. Where it is at all possible, therefore, two double periods should be given to laboratory work each week.

There is some difference of opinion as to whether all the students in a laboratory section should be working on the same problem at the same time. Where a school is unable to provide apparatus in duplicate in sufficient quantities, this method is impossible. It is desirable to have each student thrown upon his own resources, and it is possible, as is sometimes claimed, that there is danger of neighboring groups getting some help from one another when working on the same problem simultaneously. But where the sections are not too large and the right spirit exists in the class this danger is small, and it is more than offset by the saving of time which results from the giving of directions and instructions to the section as a whole. But the best reason for marching forward abreast in the laboratory is that the problems given generally belong in groups and that the problems in each group have a natural order in which they should be attacked, if a logical and complete development of the general subject treated in that group is obtained. When students change around from one set of apparatus to another, it is impossible for all of them to get these problems in the right order.

Many problems are best performed by two students working together. Indeed there is no serious objection to having all laboratory work done by groups of two, provided the supervision is close enough to prevent loafing on the part of either member of such a group and it is insisted upon that each student makes all his computations for himself.

The heaviest burden which must be carried by the teacher of physics is the examination of laboratory note books. It is indispensable to good laboratory work that clear, concise notes and records be made of every problem that is solved. It must be insisted upon that these records be faultless in English, neat in appearance, and logical in argument. To achieve this end the teacher must spend many hours not provided in the programme in reading and criticising notes and in personal consultation with students. Fortunately, if this work is conscientiously performed at the beginning of the year, it grows lighter as the weeks pass and students become more careful and efficient in making their records.

The class room work in physics should include demonstrations and explanations of principles and phenomena by the instructor, as already indicated, and recitations based upon such "lectures," the text-book, and laboratory work. Accurate definitions must be insisted upon, and those given in text-books should be carefully examined and criticised. One of our best high school text-books in physics defines specific heat as the thermal capacity of a unit of mass of a substance, making the specific heat of a substance a concrete number. Many cases of such loose or careless statements may be found. It is in the recitation that the knowledge gained from the various sources mentioned must be classified and correlated and unified, that seeming discrepancies must disappear, and the mind of the student, more or less befogged with details, must be clarified.

After principles have been mastered, numerous problems to be solved deductively by their application should be given. These problems should be somewhat varied in form, giving some opportunity for originality and ingenuity in the student, but not so complicated and involved as to confuse him.

Such work affords the teacher a means of determining the efficiency of the student and the thoroughness of his work if the problems are given and worked out in the class. In the study of any principle in physics, at least in an elementary course, the development of the formula should be the final step. The value of the formula as an abbreviated, concise statement of the relation of the quantities involved is unquestioned. But dangers attend its introduction before the significance of the relations it expresses have been grasped by the student. It is unfortunate if the student is allowed to solve problems by merely substituting values in a formula and then reducing his expression to the simplest form. This process, if repeated a hundred times, involves no use of the reasoning powers and gives no stronger grasp of the principles involved; the partial results have no significance to the student, who wonders vaguely what the denomination of each result may be, and is much relieved to find that the expression, when solved, brings him the right answer. If, however, as the result of real mental labor, the significance of the quantities used and of their relations to one another is first comprehended, the formulation of an abbreviated expression of those relations is a simple matter, and the expression itself becomes pregnant with meaning.

It would seem that a course in physics such as has been suggested and discussed, while not exhaustive, is rational, and that the work proposed can be successfully digested and assimilated by the average serious student. It should serve as an excellent introduction to the great science of physics and prepare the student for further intelligent acquisition of the principles of that science, whether it be gained in the college or university, or in connection with the practical work of the factory or shop.

The School Calendar

Winter Term

Twelve Weeks—1906

January 2, Tuesday—Entrance examinations and classification. Class-work assigned at 9:00 A. M.

March 23, Friday—Winter Term ends.

Spring Term

Eleven Weeks—1906

April 3, Tuesday—Class-work assigned at 9:00 A. M.

June 15, Friday—Spring Term ends.

Summer Term

Six Weeks—1906

June 18, Monday—Classification. Class-work assigned at 2:00 P. M.

July 27, Friday—Summer Term ends.

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THE NORMAL SCHOOL BULLETIN

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JANUARY 1, 1906

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SOME SUGGESTIONS FOR THE TEACHING OF GEOGRAPHY IN THE GRADES

BY

ANNIE L. WELLER, B. S.

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SOME SUGGESTIONS FOR THE TEACHING OF GEOGRAPHY IN THE GRADES.

By ANNIE L. WELLER, B. S.

With children as with older people it is usually true that facts as facts have far less interest than have facts with their causes and relations shown. Unless a child has been greatly repressed, we find him always asking the question, "Why?" If his curiosity is unsatisfied and he is always taught mere facts, he may reach the point where his curiosity about causes is either dormant or perhaps even entirely gone.

Geography as it was taught some years ago and as it is still taught in many schools was merely a means of cramming the child's memory with a mass of unrelated and, in most cases, unimportant facts, many of which may long since have ceased to be true. For instance, the pupil learned the capital, the boundaries, and the principal products of a country. That country was to him, in many cases, a certain part of a map which had a particular color. It had no relation to the world as he knew it. Perhaps within a few years the capital or the boundaries were changed. He had been given no idea that geography is the result of evolution, that present conditions are the result of the working out of the effect from the cause. So far as he or anyone else can see, his study of geography has been of little use.

The products were perhaps the hardest thing to remember because there are so many combinations with but slight variation, and whether this combination belonged here or there it was difficult to tell. He had not been led to see that there might be a cause for the location of these products, or that each one had its definite set of necessary conditions in a broad region rather than in many separate ones.

That which is of educational value in such a study might better be had through learning any list of words having a definite order, for in that case there is no valuable subject from which life and interest are being taken away. The study was merely a training of the memory, and the higher faculty of reasoning did not enter into it.

As we look at the subject of geography today, it is a study of man and his environment and the control that each exercises over the other. The study has very little relation to the learning of a mass of facts. To be sure, some facts must be learned, but each, as it is presented, has back of it a reason for its being and is the effect which follows some cause. Almost the entire subject may be reasoned out by the pupil if the teacher has the knowledge which gives him power to direct the reasoning. At first glance, for instance, it would seem that the locating of the important cities of the world is merely memory work; but after some study we see that each has some reason for its location and for its development into a commercial center.

A very good exercise to bring out this idea with a class is to have before them on the blackboard or on a chart an outline map of a country, as, for instance, the United States, showing the surface relief, the principal lakes and rivers, and enough parallels to give in general the latitude of the country.

After a discussion with the class as to why cities exist and the reasons for their location, let them choose from the map such places as would be favorable for cities, if this were a new country just being settled. Then let the class discuss the growth of these cities and see if the reasons for their location will always cause them to become great. Then develop the idea that as the country becomes settled and its resources develop new reasons for growth of towns arise. This exercise will often arouse interest in the mind of the dullest member of the class, since even he may be able to solve his part of the problem. Such an exercise will help not only in the remembering of important cities but also in the locating of products and transportation lines, as well as of many other things which will suggest themselves to the individual teacher. As a review exercise this might be carried out in far greater detail.

Another exercise along this same line is a good one in which to bring out the relationships between history and geography and may also be used to advantage as a review lesson. Use the same map of the United States as mentioned before. Let the class think of themselves just coming from Europe as the first settlers to the new country. Let them decide, with the knowledge they have of the country, where they would make their first settlements and why. Or the teacher may suggest that the conditions be much the same as those which existed in the early history of the United States. Let them decide what their first industries would be, how these would be determined largely by the character of the region, and how new industries would be developed through specialization. Let them decide which settlements will become most important. As the number of people increases, there will be a tendency to increase the territory. In what direction would the people migrate and what would determine the lines of migration? It will easily be seen that they would follow the streams and that new towns would grow up at such places as at the mouths of tributary streams or where falls or rapids interrupt the passage of a boat or cause a portage. The class will easily develop the country beyond the Appalachians by finding the easiest routes from the original settlements and will learn much about the surface features of the land as aids or barriers to its development.

This method of approach in geography will of course take considerable thought, study, and planning on the part of the teacher, but it will be found to add enough of interest for himself as well as for the pupils to repay him. The trouble in the past has been largely that the teacher himself has not recognized that there is any relation between the scattered bits of information he has made his pupils commit to memory; consequently it was a dead subject instead of a live and growing one.

The teacher of geography today has one of the best of opportunities to develop the thought power of his pupils, but unless he himself possesses a good knowledge of the foundation principles, he must fail. This knowledge he must get through a study of physiography, mathematical geography, and climatology, and the more thorough his knowledge, the better fitted he is to teach even the children of the lower grades. It is a common fallacy held in the minds of many that to teach little children one does not need to know very much, but in geography, as in other lines, it takes the wisdom that follows knowledge to make the teaching worth while. How, for instance, can anyone who knows nothing of the processes of nature teach children about the land forms as they should be presented in the subject of home geography? How can a teacher who has never himself learned to observe teach children to see the things in nature about them?

The teacher should have the land forms so well in mind himself that he can not only make word pictures of them, but can sketch them upon the blackboard, or model them in sand. Many of the land forms,—such, for example, as those produced by water wear, with their processes of formation,—may be found almost anywhere, if only in miniature, and here the teacher in the rural school has often the advantage in that the thing he wishes to teach is usually better developed close at hand; but every roadside, even in town, after a shower or when the snow is melting in the spring, gives many an example of miniature river systems with divides, flood-plains, deltas, and the like. But even where the thing to be discussed is close at hand in nature, the power to sketch it on the blackboard is helpful in discussing it in class and in helping the children to observe carefully. Often the land form to be studied has around it so many other distracting things that it does not stand out clearly as an individual thing. This the sketch will remedy.

Through the study of things out of doors and the representations of them by picture, sketch and model, the child may gradually come to imagine how certain parts of the country, which he has not seen, look; and consequently they begin to mean more to him than the mere names or than their representation on an ordinary map in his own geography ever could have done. Soon he is able to put together the modeled country he has been imagining and the plain map of the same region, and he learns to think of either in terms of the other. After he has learned to read a map intelligently, the pupil is in a position to reason out conditions not yet given.

I have mentioned before the use of pictures. They are invaluable in geographic study and many good ones may be obtained at little or no expense. Most of the railroads of the country publish illustrated matter which will be sent on application. The railroad advertisements in the back of the monthly magazines are often suggestive. The Boston and Maine railroad publishes six booklets, each of which contains some thirty or more very good pictures of New England scenery These will be sent to anyone on the receipt of six cents for each booklet. The Northern Pacific railroad publishes each year a book called "Wonderland," which will be sent to any address on receipt of six cents for postage. For pictures of tropical scenes the Cuban Review and Bulletin, published monthly by the Munson Steamship Line, 82 to 92 Beaver St., New York, is very good and costs only fifty cents a year. For pictures of foreign countries the printed matter sent out by certain steamship lines is valuable. All such material helps to bring to the mind of the child a definite conception of the parts of the world that he has not seen.

To illustrate the idea of control of environmental conditions one over another and over the development of any region, I wish to take as a definite example the continent of South America. This, of course, in a short paper can be hardly more than a suggestion, not a detailed study. I choose South America for illustration, not because the sequence of effect upon cause is any more perfectly carried out than elsewhere, but because the structure of the continent is so simple that the conditions are less complicated than in most large land masses.

In the study of any country the teacher should always have in mind an outline for work. The outline given below suggests the principal points and may be worked out by the individual teacher, of course, in much greater detail.

I. Physical environment.
  1. Location:
    a. With reference to latitude and longitude.
    b. With reference to other countries.
    c. With reference to water bodies.
    d. With reference to heat and wind belts.
    e. With reference to ocean currents.
  2. Shape and size in comparison with other countries

already studied.

3. Surface features:
    - *a.* Coasts.
    - *b.* Highlands and lowlands.
    - *c.* Direction of slope.
    - *d.* Drainage systems.

4. Climate:

Winds, temperature, and moisture. How influenced by location, shape, and size of the country, and by surface features.

5. Natural resources:
    - *a.* Vegetable.
    - *b.* Animal.
    - *c.* Mineral.

How dependent upon conditions given before.

II. Interaction between man and his environment.

1. Native inhabitants.

2. History of settlement. How influenced by physical environment.

3. Present inhabitants:
    - *a.* Industries:
        1. Hunting and fishing.
        2. Grazing and stock raising.
        3. Lumbering.
        4. Agriculture.
        5. Mining.
        6. Manufacturing.
    - *b.* Transportation and commerce:
        1. Internal trade with routes.
        2. External trade with routes.
        3. Commercial centers with reasons for location and growth.
    - *c.* Social organization:
        1. Political.
        2. Religious.
        3. Educational.

d. Topics of local interest.

As before stated, some such outline should always be in the mind of the teacher, but it need not be always followed with exactness, since there may be danger of the form of the lessons becoming stereotyped. As an example of such variation as may be allowed, in studying the surface of a country it may seem the natural thing to bring up the effect of each land form upon the climate instead of waiting till all the surface features have been discussed before taking up the climate.

South America

The continent extends roughly from 12½ degrees north of the equator to about 56 degrees south latitude and as the greatest breadth is to the north, the tropical type of climate is determined for a larger part of the country. The wind directions in the northern part necessarily vary with the shifting of the heat equator, while the southern part lies within the belt of prevailing westerlies. Bordered on all sides except the north by the great water bodies, the Atlantic and Pacific oceans, and on the north by the warm waters of the Caribbean sea, the wind directions of any particular place are largely responsible for its moisture conditions. In this instance ocean currents have no great influence, so we shall not stop to discuss them.

If we determine the shape of a country by drawing lines which show the general trend of the coasts, we find that South America is triangular and somewhat similar in form both to North America and to Africa, but quite unlike Eurasia or Australia. In area South America is about nine-tenths as large as North America and not quite twice the size of Europe. Its coasts are for the most part regular in outline, with very few indentations suitable for harbors. An exception to this regularity, however, is found on the west coast approximately south of the forty-second degree parallel. With the exception of this one place there are very few islands which have any intimate connection with the structure of the continent.

The surface of the country, as in North America, is made up of a great central lowland composing the basins of the Plata, Amazon, and Orinoco rivers, and of a western and eastern highland. As in North America also, the western mountains are high and geologically young, while the eastern mountains are older, more worn down, and lower. The Andes mountains, or the western cordillera, are near to the coast all the way from the northern to the southern part of the continent. In the most massive part, which is just to the north of the tropic of Capricorn, the mountains are 500 miles in breadth. A bird's-eye view would show a great plateau from twelve to fourteen thousand feet in height. Rising above it and bordering it on each side we should see a complex system of ridges, mountain peaks, and volcanic cones. In the Bolivian portion alone there are thirty peaks, each with an elevation of over 17,000 feet. Here too we should see on the plateau, between two of the mountain ridges, lake Titicaca, with its area over three times that of our little state of Rhode Island, and with its many peninsulas and its mountain peaks standing up as islands.

To the north and south the cordillera become narrower, the range to the east disappears, and the number of high peaks becomes fewer; but nowhere in the whole length, which is about one-sixth of the circumference of the earth, is there to be found a pass over the mountains low enough to permit of easy passage from east to west. To the south the western chain of mountains becomes lower and lower until it disappears below the sea, leaving in the place where once there were mountains only a great number of islands. The land has sunk and the sea has come up into the old valleys, leaving only the higher points above the water.

To the north of the main mass, the narrowest part of the mountains is near the gulf of Guayaquil. From this place on through Equador the mountains seem to be almost entirely volcanic peaks,while the plateau becomes lower, more cut up by rivers, and finally disappears. In Colombia the cordillera again divide. The western chain is continuous through the Isthmus of Panama, while the eastern forms several ranges of which the most easterly continues along the coast to the east of Lake Maracaibo and disappears in the island of Trinidad just north of the delta of the Orinoco river.

In the eastern part of the continent there are two highland areas. The Guiana highlands have their western extremity to the south and east of the Orinoco river and from there trend to the southeast, then east,cutting off from the rest of the continent the Venezuelan, British, Dutch, and French Guianas. These highlands for the most part do not exceed 1,500 to 2,000 feet in elevation, but in Venezuelan Guiana they have not been well explored and some summits are said to reach 6,000 to 8,000 feet above sea level. Though so low, these uplands have formed a very effective barrier between the Guiana region and the Amazon basin and have prevented the development of Guiana to any great extent.

In the eastern part of Brazil from about the region of Cape St. Roque to the southwest, there is a plateau of from two to four thousand feet elevation. The Sao Francisco river in its upper course marks approximately the western border of the plateau, but in its lower course cuts through it almost at right angles. To the south and west the plateau characteristics become less prominent. The upland is cut up into low hilly ridges.

The main lowland of South America extends through the center of the continent. At the north where it composes the valley of the Orinoco, it is narrow, but after passing the low almost imperceptible divide which separates the Orinoco basin from the drainage area of the Amazon, the lowland widens out to include the great Amazon basin. As the divide between this basin and the Plata is reached, the region again becomes narrower while its slope is to the southeast, as is shown by the direction of the flow of the streams. Lesser lowlands are found along the Pacific, Brazilian, and Guiana coasts and along the smaller rivers, such as the Magdalena, which flows into the Caribbean sea. On the Pacific coast the lowland is so narrow and the slope from the mountains so steep that there is no chance for any great river; but here, as along the other coasts, there are many unimportant streams, the number depending, as we shall see, upon the rainfall conditions.

Were the country all of the same altitude, it would not be difficult to divide South America into climatic regions with both temperature and rainfall as a basis. The equatorial belt would occupy its large share with its high temperature and heavy daily rainfall, while to the south there would be the temperate belt with its westerly winds and its rainfall decreasing to the east. Instead of this the differences in the elevation of the surface make a marked change, since they not only affect temperature conditions but also form barriers to moist winds and so change the distribution of moisture.

With conditions as they are, by using rainfall as a basis, we may divide South America into four regions by two lines, one from north to south, the other from east to west. The crest of the high Andes mountains forms the first division line, since if from any part of the Andes, with the possible exception of the section that is in the Doldrum belt, we could compare the region to the east with that to the west, we should be able to show a strong contrast.

The second divison line would have approximately a southeast to northwest direction and would lie somewhere in the region of the thirtieth parallel. In the Andes we could sub. divide the region definitely according to altitude, as here the temperature, and with it the vegetation and animal life, depends upon that.

In the rainfall of the northern part of the continent, two important factors are at work: first, the ascending currents of air caused by the intense heating of the land in the hot zone; second, the trade winds which blow over the land from an easterly direction. The direction of these winds in this region, as before stated, vary with the time of year, following the change in the relation between the earth and the vertical rays of the sun. The region north of the equator will have two rainy seasons, since the Doldrum belt shifts from the equatorial region north to the Caribbean and back again during one year.

In the belt of calms, the Doldrums, the air becomes very much heated and this results in rising currents. As the air ascends, it expands, becomes cooled, and its moisture is precipitated. This process goes on without being much affected by the mountains, and throughout this belt we have the daily thunderstorms of the Amazon basin.

On each side of this hot belt is a region where the easterly winds come in over the land. Wherever the air is forced up by an upward slope of the land surface we again have cooling and regions of heavy rainfall. This process gives us the rainfall conditions on the east side of the Andes while to the west we find, as we should expect, desert or dryer country. Of course in these belts the accending currents are somewhat effective, but the easterly winds are the great controlling force.

As we pass south to from 23½ degrees to 30 degrees latitude we find a belt which divides our northern section from the southern. This belt has a northwest to southeast direction and is marked by the fact that here we have the region of sinking air with almost no rainfall. South of this is the zone of westerly winds. The air currents, in striking the west side of the mountains, are thrown upward and their moisture is precipitated, while this same air going down the other side of the mountains becomes warmed and dry. Here we have the nearest approach to a continental climat found anywhere in South America.

Since the land mass in this southern part is so narrow, the temperature is somewhat equalized by the surrounding waters, but since the latitudes are comparatively high and the air moist, we find some small glaciers in the low mountains of the southern end of South America.

No other continent can in so small an area show such great and striking ranges in all climatic conditions and nearly the whole range may be found in the one narrow country of Chili.

Knowing the surface and rainfall conditions in South America it is easily seen why its largest rivers flow to the east and why the Amazon, one of the largest rivers in the world, is located in the north where there is not only a broad area to be drained but also a heavy rainfall.

A study of the vegetation conditions in South America shows remarkably well the influence of climate and land forms. In the mountain region the type of vegetation depends largely upon elevation, but in the lower countries the rainfall seems to be the controlling factor. Through the hot rainy region of the Amazon basin we find the tropical type of forest which is green the year round. This vegetation is very profuse. To the north and south this grades into the deciduous forest and the rich savanna, while these in turn change, with decrease in rainfall, to the southeast, into the steppes of the Argentine region.

The important animals of South America are for the most part domesticated, so that their present distribution depends upon the distribution of the human race; but the wild animals form groups which are closely associated with the plant groups.

The native inhabitants of South America were Indians of many tribes and types. Of these perhaps one of the best known and strongest was the Inca tribe which inhabited the high plateaus of the central Andean region. Influenced by good climatic and soil conditions, as well as by the freedom and safety of their mountain country, this tribe seems to have been able to advance to a considerable degree of civilization, as did the Aztecs of Mexico. The other extreme type is seen in the poor region of Patagonia, where the natives have never, even today, advanced beyond the condition of barbarism. When the time of conquest by Europeans in South America came, the two tribes of natives were treated very differently. The Incas had to be either let alone or destroyed and, as Reclus says of them, "The Spaniards destroyed like a conqueror instead of creating like a master." On the other hand, the less advanced tribes seem to have been largely ignored. The native inhabitants around the borders of the continent have been greatly influenced by foreigners, chiefly Europeans and negroes, who have come into the country, but the interior is still largely held by the natives, since not only are means of transportation to the interior poor, but the climatic conditions do not agree with the foreigners.

As might be expected, the greatest density of population is found near the places which have access to good harbors on the one hand and resources on the other—as, for example, in the valley of the Plata river. Nowhere, however, does the density of population exceed, in any extended area, from ten to fifty a square mile.

In looking at so large an area as the one under discussion, we may profitably use only a few type illustrations to show the relations between climatic conditions and physiographic features on the one hand and the development of industries on the other. Each minor region will show its individual characteristics and so develop its own industrial condition. Of the industrial relationships, perhaps two of the best types are the coffee industry of Brazil and the ranching with its allied industries in Argentine Republic.

Why has Brazil come to stand among the foremost of the coffee raising countries of the world? Simply because for perfection in coffee it has been found that there must be good soil, with a medium amount of rainfall, the summer temperature warm, but the winter temperature cool enough for an occasional frost, which will help to keep down the number of such animal forms as are injurious to the coffee plant, and land with an elevation of from two to three thousand feet. The nearest to the perfect combination of all these conditions is found in the plateau region of Brazil.

Why is Argentine Republic one of the great meat producing regions of the world? Again the question is answered in the climatic and surface conditions. The surface is level, the rainfall is slight. The type of vegetation in such a region is usually grass and the grass which grows here is rich feed for cattle and sheep and has the advantage of curing itself without being made into hay by man. The result is conditions best fitted for the wide range of cattle, the large ranch, not the small farm. Of course the development of refrigerator methods in transportation has been responsible for the market, therefore for a large part of the growth of the industry.

As would naturally follow from the conditions named, the commercial relations of these parts of South America with other countries depends upon these two industries and we find Brazil sending out as its greatest export from 10,000,000 to 16,000,000 bags of coffee (averaging 132 pounds each), yearly. *In the year 1900,of the 15,285,000 bags produced in the world, 10,500,000 bags, or 69 per cent., were produced by Brazil. †In Argentina over 2,500,000 sheep are slaughtered every year and the carcasses shipped frozen. These represent a value of about two million dollars in gold.

The minerals of South America, though very numerous both in amount and kinds and very widespread, have so far been only slightly developed. In time they may come to be a great resource.

As we get a closer view of this great continent with its many rich resources, we begin to wonder why it is that, with a longer time even than North America for its development, there are still so few of its countries that stand as important in the commercial world. This is easily understood when we see how the Andes mountains act as barriers in the west, both to exploration and transportation. A country advances as its commerce grows, and commerce cannot grow without good harbors and good ways and means of transportation. Where these things are found there early grew up great cities which have been commercial centers as well as centers of culture. Here social organization, both political, religious and educational, has reached an advanced stage; but where the essential things are lacking, there we find a backward state of civilization.

Throughout the study of geography we find that the same principles hold as in South America and that each fact or condition is closely related to others. The climate depends upon location, shape, and size; the resources upon the past geological history and the present climatic conditions, while the distribution of man, his state of civilization, his history, his industries, his social organization, depend upon all of these things taken together.

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[*] Trotter: Geography of Commerce.

[†] Monthly Summary of Commerce and Finance, August, 1901

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APRIL 1, 1906

FOURTH YEAR GEOGRAPHY

In the Illinois Course of Study

Topic: THE WORK OF WATER

BY

CLARA M. SNELL

Illinois State Reformatory Print.

Normal School Bulletin

PUBLISHED BY THE EASTERN ILLINOIS STATE NORMAL SCHOOL

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CHARLESTON, ILLINOIS, April 1, 1906. No. 15

LESSONS IN FOURTH YEAR GEOGRAPHY

Topic: THE WORK OF WATER.

By Clara M. Snell
Critic Teacher
in
The Intermediate Grades

Since the study of geography is begun in the fourth year, the teacher of that grade has the privilege of laying her own foundation. It adds much to her enjoyment of the work and to its efficiency to see that the kind of work planned for the children of the state to do in their introduction to this subject gives the sort of training and understanding that must be had if they are to get anything like a breadth of grasp in their mature study. When she looks over the work of the whole course in the subject, as the teacher of beginners should always do, she sees her field in relation to this whole and its truly fundamental nature becomes apparent.

The main purpose of the beginning work in geography, as it is stated by the author of our Illinois Course of Study, is to train the pupil in observation of the every-day physical phenomena of his immediate environment. In this training, the author says further, one purpose the teacher should have constantly in mind is to "invite attention at every step to the causal relation in things, asking the question *Why?* and finding the answer in the phenomena."

The study of the work done by water gives an unusually good opportunity to see marked growth in the pupils in these two ways. The phenomena are within reach and often close at hand; they are ever changing, always interesting; while they may not be of a kind that gains the child's natural interest in a way that will be profitable for our ends, they do when presented in a stimulating manner, appeal to a child's freshness of mind and sharpness of eye.

When the child once realizes that the stream he crosses every day or in which he goes wading and fishing, has a life of its own, does things, and is itself subject to changing conditions, it will take on for him a new and lively interest. He will come really to notice things which before he had passed by every day without seeing. This observation will extend to similar and related things and he will come finally to inquire into the *why* and the *wherefore* and will seek to find an answer in the phenomena themselves.

Probably the idea that water is an agency in the building up, tearing down, or modifying of land forms has never struck the pupil in the fourth grade. To be sure, in his play along streams and by the roadside after a rain, he may have noticed the taking up of soil particles in one place and the laying them down in another. Perhaps he has noticed the changed appearance of the little slope after the transportation. He may have watched the formation of a miniature river system. Possibly he has looked more closely and has seen why the streams take the courses they do and what different results are seen from the different rates of flowing. Whether the child has seen any or all of these things and others of like nature, by himself, depends upon whether he is naturally of an observing and inquiring turn of mind. It appears that most children who enter the fourth grade have not had clear perceptions that can be counted on as a basis for study of this subject. The only thing to do, then, is to see that they get this basis. The only way to do this satisfactorily, it seems to me, is to give a series of out-of-door lessons.

In a school where the teacher has charge of but one grade, this is easily managed, though even in that case, if school hours are taken, the regular programme must be set aside. In a school where the teacher has charge of several grades, it may be necessary to take time after school or on Saturdays. We have often gone after school in preference to taking time earlier in the day. This gave us the two hours and a half before supper to visit a stream a mile away. A Saturday lesson is practicable and does away with the hurry that a short lesson makes necessary. A light lunch should be taken in either case, as without it children are likely to grow tired on a long tramp.

Out of door lessons with the unusual conditions they involve present peculiar difficulties in the way of class work. The danger, of course, is that such a lesson may become altogether a picnic. However, if due preparation is made, it can be business-like and successful. An outdoor lesson is the last kind of lesson in which the teacher can afford to depend upon the inspiration of the moment. Before starting out she should know clearly what she wishes to accomplish; she should have carefully looked over the ground beforehand to see what questions it presents which it is possible for these children to comprehend and find the answers to. She should also give the pupils a talk before starting out, telling them the purpose of the trip, what their conduct is to be on the way, and that a quick response and class room attention are demanded when a place is reached where study begins. One or two questions are enough to give out at a time, then the class will come together again promptly to talk these over and receive further direction. It is altogether desirable that these requirements be understood by the class before they start.

The work directly preliminary to the topic for this series of lessons is taken up in the first month. The pupils have noted what becomes of the rain that falls—some of it evaporates, some sinks into the ground, some flows off into streams. The study of the first two processes has been taken up somewhat in detail and the third remains for further study.

With regard to order of procedure in our field trip, we will let expediency and conveniences largely determine that; we can attend to the organization of subject-matter later in the class room.

Since conditions around Charleston, which we have studied, are typical of those in this part of the state, I will speak of some of the field study my fourth grade has done.

We usually go first to a little valley about a mile to the west, called Happy Valley. A little this side of the valley we go into a pasture where there is a good place to note direction of slope and consequent flowing of water. When we get up on the divide, the children are asked which way the land slopes where they are standing. There is usually a difference of opinion. Some child is sent a few rods to the south. Which way does the land slope where he stands? Then other slopes are noted in the same way. Which way would water flow falling at such a point? In a heavy rain, what would become of the water which falls where we stand? Some of it would flow to the south, some to the north, some to the west. As we look across the field and see places that appear to be level, we may know that if we were to look closely we should find that the surface is really not entirely level but is made up of slopes. (The children here as elsewhere in this work should be asked what they see and not be told what they see.)

Where we are we have noted marked slopes and have seen that some of the water flows one way and some another. We call such a place a *divide*. Do you see why? What is a divide, then? Do you think of any others you have seen? Where? Another name for the dividing line of waters flowing into two different streams is *watershed*. Does this seem to you a good name? Why?

In looking over the country from this point we notice the general direction of slopes. These slopes all appear to be gentle. Have you seen slopes different from this? Where? Describe them. Such steep slopes are called *abrupt* slopes. Later we shall see the difference in the work done by water on these different kinds of slopes.

Going on to the west, we come to the *source* of a small stream, the general direction of which is north. The water is seeping out from the side of the hill.

We go down this stream and notice its crooked course. Why does the stream take the course it does? The slope for the most part determines this. What causes this bend in the stream? Perhaps there was less resistance in that direction; the soil may have been softer or looser; at another place some tree or stone may have turned it aside so. Farther down the curves become more pronounced and we have a *meandering* stream.

Can you tell at this point which way the water flows? Besides the direction of the *current* and the slope of the land, the appearance of the banks gives us evidence. One side is a gentle, grassy slope. The opposite side is nearly vertical, without grass and somewhat cut under. How has this difference come about? Notice the overhanging top of the bank on this side. Why is this? We see the mass of tangled roots of grasses near the top and they help us to answer. On one curve we see the huge roots of a tree exposed. The tree occupies a point of land which is not cut back nearly so far as in the corresponding place above. There are several such places where the retarding effect of roots upon the wearing away of soil particles by water can be seen. What do these roots do to prevent this wear? Look at them closely—their number, form, and position.

How far below the level of the general surface is the bottom of this bed? What has worn it out so? Has water, then, such wearing power as this? What evidences of this have you seen elsewhere? If you wish to see just how this is done, a roadside after a rain will give you a good oportunity. Watch the gradual wearing away of the particles of soil, the taking of these up by the current, their suspension in the water and movements against each other, the rolling of tiny pieces of gravel or sand along the stream, their action on each other and on the botton of the stream bed, the dropping of transported materials where the slope lessens or where some obstacle is greater than the force of the current bearing it on.

Here we find a *tributary* very different from the main stream and showing us many new conditions. It is in a deep and narrow gully with very abrupt clay banks, without vegetation. We follow this gully to its upper end and find it working its way back into a ploughed field. Here it is piled full of brush and stumps. Why? What do you think of the rate of wear here compared with that in the main stream above Why is this? Notice the banks. The children see that they are full of tiny gullies running together. They say this would be a fine place to watch the wearing away after a rain. Along the side of this gully we were once lucky enough to find a fresh *landslide*. A little tree had been transplanted without injury along with its generous foothold, to the gully below. Just what brought this landslide about, is a question for the children to answer. Let us notice the condition of the transported block several months from now; also that of the bank above from which it came. Do you think they will look just as they do now? What changes do you expect to see?

Let us follow down the tributary to its mouth. How does the slope of its bed compare with that of the main stream? This more abrupt slope, together with the steep banks and the bare soil, causes a great deal of material to be loosened and carried off by the stream. What effect will this have on the slope? On the stream bed? Does much of this loosened soil borne away by heavy rains remain below in the tributary bed? Why not? Down at the mouth of the tributary we find some of it. Why should it stop here? Notice the shape of the *deposit.* This is an *alluvial fan.* The children see why it is called a fan and the teacher contributes to their understanding of alluvial.

In the little main stream near here we find a *cut-off* and question how this came about. As we go along we pass the mouths of several tributaries. Following some of them up we find that they in turn receive the waters from other tributaries in rainy seasons. We conclude that the amount of material carried away by these tributaries is considerable. We notice how much land is drained by these little streams and thus build up our notion of a stream basin. The main stream with all its tributaries is a minature river system.

The above out-of-door observations ought to receive the time of three or four trips to the field. There is danger of confusion, naturally, if a great deal of such new material is attempted at once.

If for any reason the teacher does not think it wise to have so much work outside the schoolroom she can give attention chiefly to such points as she feels the children are least likely to have seen by themselves and to such as can not adequately be described verbally and by the use of sand-table, blackboard, pictures, or any other means obtainable indoors. Sometimes the reasoning out of why these things are as they are can be done as well away from the things discussed.

Even when as much time is taken for the out-of-door-study as seems profitable, the work is by no means completed. A series of class room recitations must follow to establish the observations made and drill on new terms. This will require much repetition.

After a week's work based on the above field trips has been done in class, it will be well to go to a different place and study the same sort of phenomena again. Here the manner of approach will be somewhat different, as there will now be a recognition of what is more or less familiar. This second stream presents features which we have not seen before, also; its bed is free from grass and consequently the work done by the water is more in evidence. Here we will pay special attention to the kind of material carried by the stream and to the shifting of the stream bed. Children are very likely to think of things existing now as they always have been, so the notion of a whole stream's changing its course will be a new one.

Let us again notice at a curve the concave and convex banks. How do they compare? On the abrupt side notice the current. How is it by the longer, gentle slope? The children will notice the current is swifter on the concave side and is cutting rapidly. The bank has been recently so cut under that a part of the ledge has broken off. We see the disintegration of the mass, the sifting of soil particles, and the carrying away. On the opposite side, on the contrary, what is becoming of material carried in suspension? We see soil, sand, and gravel dropped here. The bank is consequently being built farther out into the stream. This means that the stream bed is gradually shifting. After many years it will occupy quite a different position. We recall in Happy Valley the comparatively deep valley in which the stream wandered about over a space considerably wider than that marked by the course of the stream. Especially was this width greater toward the lower and older parts of the stream. What made this deep, wide valley? Is it possible that the stream has done all this? It may be that the children can imagine and understand that this valley has been cut out by the stream and that the terraces at different heights represent old valleys over which the stream bed shifted in former times. Have you any notion how long this took? We simply want to realize that it took a long, long time. Trees growing on the different terraces give us some notion of the minimum time since the stream flowed where they are.

The formation of a whole valley with its terraces may prove too difficult a conception for the pupils at this age. If so, it can be left till a later time. The pupils can at any rate be prepared to understand it by watching the actual cutting, carrying, and shifting taking place before their eyes. Any attempt to go much beyond this in most of this work is likely to be unprofitable, owing to the difficulty children of this age have in thinking of any change taking place gradually and involving a long period of time.

Cut-offs in process of forming are seen in several places along this stream. The teacher may call attention to the *ox-bow* lake resulting and teach the term if she has the time. We have a good chance in going down this stream to notice the amount and kind of material that the stream carried in flood time and deposited along the sides of its bed. We noted that it was very much greater in amount and contained much heavier masses than could be carried by the ordinary *volume* of water at the ordinary rate.

Waterfalls and short stretches of tiny rapids are seen in this stream. A small lake above a dam is another feature that is easily understood. Various land forms are found along the stream—peninsulas, islands, capes, and isthmuses.

The quantity of fine material left on each side of the bed after the stream recedes is adding toward the forming of a *flood plain.* Where is this higher? Why? Wherefore the general evenness of the surface? What kind of soil is this?

After the above out-of-door work and its review and recitation, the course of some ideal stream may be imagined and described—for instance, we can trace a stream rising in a mountain region till its waters reach the sea. The kind of slope, current, volume of water, kind of work done, and character of material carried in the beginning, middle, and lower courses of the stream will be discussed and compared.

It will be noted that this work which is first taken up in October is to be continued the following spring. The spring month will furnish the better opportunity for the study of some points. The effect of soil saturation by winter snows will be seen when we note the washing power of the spring rains.

After the second series of lessons, again comes the indoor review and drill. Sand-table modeling, drawing, description, and pictures may all contribute toward the enrichment and application of the notions got in the field. Definitions should be formed. These should be the children's own, modified only so far by the teacher as is necessary for accuracy.

The result should be a permanent available possession in the way of mental pictures of phenomena, together with such understanding of their relation as will prove of considerable help in later reading, travel, and study.

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The Summer Session of the Eastern Illinois State Normal School will begin Monday, June 18, and close Friday, July 27. Fifty courses will be offered in all departments of the school by the faculty, assisted by Supt. Darius Steward, of Stillwater, Minnesota. There is no charge for tuition. An incidental fee of one dollar is charged for the use of libraries, shops, and laboratories. Text-books may be rented for one dollar or bought, at the pleasure of the student. Board and room can be had at very reasonable rates. During the past year a number of new houses have been built in Charleston, and it is expected that there will be ample accommodations for all students who come. For the "Announcement" and any further information, apply to

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OCTOBER 1, 1906

ENGLISH COMPOSITION IN SECONDARY SCHOOLS

Topic: CORRECT ENGLISH

BY

FLORENCE V. SKEFFINGTON, A. B.

NORMAL SCHOOL BULLETIN

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English Composition In Secondary Schools

By Florence V. Skeffington, A. B.

In view of the many articles on English in Secondary Schools that have already been published I feel scarcely warranted in adding mine, especially since the only originality I can claim for it is, perhaps, a redistribution of emphasis. Educationists are now agreed that the subject is of fundamental importance; that it should be taught regularly and systematically throughout at least three years of the high school term; that at the end of that time students should be able to write grammatically and to spell, punctuate, and paragraph decently well; that they should be regardful of such mechanical details as the placing and capitalizing of titles, the indenting of paragraphs, the leaving of proper margins on the page; that their productions should have some point and be fairly compact and lucid. Such modest requirements as these are too often not met, a lamentable fact well known to college instructors.

For a number of years the situation has interested me. In the best secondary schools the outlines for the work are comprehensive; the teachers are conscientious and in most cases adequately prepared. Then why do instructors in colleges so often find that they must lay the foundation as well as put up the building? I am not so presumptuous as to fancy that I can make an infallible diagnosis or offer a panacea. Some study of the case, however, has led me to attribute these ills to two fundamental facts, the lack of the right kind of interest on the part of the student and his woefully inadequate vocabulary. What these two insufficiencies themselves spring from and how they may be turned into sufficiencies, are the questions that I wish to discuss, hoping that I shall be fortunate enough to make some suggestions that will seem practicable and helpful to teachers in secondary schools.

By *right kind of interest* I mean to imply some zest in the work. To say that such a spirit rarely fires the youthful writer is no exaggeration to teachers of the subject. Who of them has not at times been mortally discouraged by the deep-rooted, almost instinctive dislike felt for it by their students? When, however, I notice the delight some of these same students take in other modes of self-expression, notably the different forms of manual training, so universal a distaste for this, the most individual and fertile of all such means, strikes me as unmistakably and astonishingly abnormal. And I am forced to conclude that the responsibility in the case lies mainly at the door of us teachers. We have failed to show our students the practical value of the subject, to develop in them enough skill in the use of tools to make work a pleasure; and our criticism has been oftener destructive than constructive.

Although English requirements in secondary schools are now generally satisfactory in theory, in practice the organization and accomplishment of the work give students quite inadequate notions of the close relation that *composition* holds to their other studies, and its value to them as communicative beings. The conservative, and it must be admitted rational, method of assigning this work exclusively to the English department and there either treating it as a separate subject or arranging an alliance between it and literature, is adopted by all schools that attempt any kind of systemization. The reasons for this course and its advantages are manifest. It is my purpose, however, to call attention to certain misunderstandings that have naturally resulted. English composition has come to signify to students an unrelated system of work devised by pedagogues, only presumably for anybody's good; or a set of exercises required by unjust teachers and hence to be shirked whenever possible; or a something that is connected with success in the study of literature. To me the most serious abuse that such a point of view fosters is the tacit assumption that the ability to write correctly and effectively is of no special consequence in the mastering of any other subject (unless it be literature) in the school curriculum.

On reflection no one will deny that in English speaking schools this part of the work holds a unique relation to the whole, since it is the study of the medium itself by means of which in all their studies students must both acquire and express. A fair ability on their part to understand what others say, and in turn to express intelligently what they themselves have to say is as clearly necessary to any practical success in botany as in literature or rhetoric. The students in a way recognize this fact; but they hope to attain such ability by some happy though indefinite chance, and quite fail to comprehend that, for this very purpose English composition is a required subject on their schedule. And some instructors are as short-sighted as their students. I have heard teachers of science taunt the Department of English with the fact that certain young men could neither spell, nor write grammatical and lucid sentences. In some instances the Department was able to retort that those same young men not only could but did write pretty good themes, correctly spelled and punctuated. The explanation of the apparent contradiction is obviously that the students had discovered in that school two accepted standards of adequacy in written work. Just as long as teachers of science, history, and the rest show unconcern and assume entire irresponsibility in this matter, students will fail to understand its significant connection with their other school work.

Even more serious than this misconception is the blindness of students in general to the peculiar value this work has for them as persons with ideas to impart. Such a condition is the result, among other things, of the teacher's failure to make them realize the close relation that should exist between spoken and written discourse. Most young people enjoy talking; few are cheerful under the ordeal of writing. Is not this because written composition usually signifies to them either the rehabilitating of some one else's opinion or the stating of what they think they ought to think on some topic quite outside the range of their spontaneous interests? Many students never learn that it is less profitable to explain how to build a battleship than how to train a bird-dog; to discuss some book they have never read than to describe a favorite nook in the woods or their grand-mother's kitchen. Further more, the standard of technique in written work often create a remoteness from every-day speech. Students, unable to discriminate values, flood their compositions with labored, often absurd, figures, startling conceits, vulgarities of humor and pathos, the whole couched in hackneyed, semi-poetical diction, because they have a hazy notion that they are expected to produce literature, something that transcends the natural record of ordinary experience as the celestial regions, the earth. Little wonder that vigorous youth takes scant comfort in this rarefied atmosphere! Wise teachers are discovering that the antidote is an increase of oral work in class, the use of the students' experience as the source of most of their themes, and the substitution of possible models for those that are beyond their ability.

I trust that no one will imagine that I am opposed to the use of literary masterpieces in connection with composition work. I appreciate fully the practical value to young writers of contact with them, both for thought and for beauty and rhythm of diction. I do not believe, however, in setting these up as models to be imitated. For such purposes it is much better to use the best compositions of the pupils themselves—some perhaps kept over from previous years, or a model prepared by the teacher for the occasion. The point is students should realize that this drill is not to entice them to produce literature, but to enable them to talk pleasantly and intelligently, to write letters that will entertain and predispose in their favor, and later, if necessary, to address easily and effectively school, congregation, jury, farmers' convention, missionary society, or whatever the circumstances of their lives may bring. When boys and girls believe that through to-day's drudgery they are laying up self-respect and power instead of humiliation and impotence,the battle has been half won.

Another reason why written discourse does not appeal to the student is because he realizes that he writes in a clumsy and ungainly fashion. No one feels much enthusiasm for a task which stimulates only his awkwardness. The young writer's awkwardness is natural enough, for he rarely identifies his tools as the very ones he uses so easily and profitably when he plays, or arranges for some practical joke, or persuades his comrades to join him in some pet enterprise. This failure in co-ordination also reaches back to that conviction of his that composition exercises have little in common with ordinary speech; and their *raison d'etre*, if they have any such thing, is far removed from the sensible and very evident purposes of the latter. If we wish a boy to become facile in the use of a tool, we show him what it is good for and demand frequent, regular, and thoughtful use of it. For this reason I believe that if students are to acquire any deftness in composition they should be required to do much more written work than the teacher even under the most favorable conditions is able to criticize.

Some explanation is necessary here to forestall two possible misapprehensions. Many teachers will say at once that such requirement is impossible because it demands too much of the students' time, and even if possible is undesirable, as students when they think their work is not to be reviewed by the teacher will write carelessly. In answer to the first objection, I wish to say that much of the writing should be done in class, necessitating no previous preparation. Such a procedure is, of course, liable to much abuse; its value may be entirely eliminated by an indolent, indifferent, or ignorant teacher. Facility in the mere spreading of ink on paper with scant or no regard for content and form is worse than bad; it is vicious. This result is, however, easily guarded against by the ready teacher. She will give the class definite themes to write on; and in a short open discussion unfold their possibilities and suggest several methods by which they may be effectively developed. Again, she will read to the class for fifteen or twenty minutes something appropriate and have them use the rest of the period in recording whatever thoughts may pass through their minds. The argument that the result will be mere structureless ramblings is not valid for this very informality is natural and appropriate for this style of composition. The writers will come to recognize the necessity for honest expression and will soon acquire some skill in transmuting thought into the written word. The second objection, however, that the students will form bad habits if they believe that their productions may escape all eyes but their own is, both valid and pertinent. Hence they should not for one moment be allowed to suppose that because the teacher does not return all their papers some are thrown unread into the waste-basket. No teacher who is not wickedly overworked need resort to this expedient.

The mere reading of compositions with a rapid estimate of their worth is a comparatively brief performance. Such hurried judgments, though necessarily subject to modifications and inadequate as a basis for final grading, are not valueless to the teacher. These running impressions, if we may so call them, will often balance and correct the more labored and mechanical weighing. Then, the teacher may in this work make use of the class. Students like to read each others' themes and will take some pride in leaving a short critical paragraph at the end of the paper for the author's eye—and the teacher's too, if she is wise. The knowledge that some one is going to read whatever they write is usually sufficient to keep the writers from slip-shod methods.

Incompetence in composition is not always due wholly to lack of skill. Often boys and girls are commanded to write on subjects which presuppose knowledge that they either do not possess or can not communicate. If the first, they need to be enlightened; if the second, made ready. Sometimes it is best for the teacher to furnish the information; often, the writers themselves must gather the necessary facts. It is then seldom sufficient for the teacher to send them forth with only vague directions; she should state as definitely as she can where and how such facts may be got. This familiarity with some of the sources of information goes a long way towards making authorship agreeable as well as possible. Those others who already know something worth saying and yet are ignorant of that interesting fact, or lack initiative, are in as awkward a predicament as the first class. Such students need to discover themselves through class discussion and private conference. Furthermore, along with self-knowledge they need to acquire self-esteem.

But appreciation of the practical importance of this means of expression and some ease in its use are not sufficient to preserve interest in the face of unintelligent and needlessly rritating criticism. The clever, caustic comments of the college instructor oftener than not amuse while they enlighten the young men and women in his class. The secondary teacher with college training, however, makes a mistake when she passes on to high-school boys and girls the brilliant, and alas, when not icy, burning phrases of her pet professor. Adolescence lacks ballast and a center-board to keep the craft steady and right side up. It is a season of conflicting motives and quick, unreasoned impressions. Youth is morbidly sensitive, easy to take offense, will nourish resentment, and is not clear-headed always to understand intrinsic values. The adult can appreciate the humor involved; not so the adolescent, who does not easily tolerate being made, as he is quick to fancy, the butt of ridicule. I once knew a boy of decided promise so outraged by his teacher's comparatively mild comments on his composition in the presence of the class that he dropped the course. The teacher was amazed and sorry. She had no desire to wound the boy, whom she liked and believed in; but she did not resist the temptation to indulge in witty sarcasm at his expense. Although she later made friends with him, she could never win him back to the work, which he steadily refused to take even on penalty of forfeiting his diploma.

Without doubt students' effusions often do invite the clever, cutting phrase and stinging rebuke; but ridicule and invective have never yet made the teacher's or the student's path easy. On the other hand,under sympathetic and intelligent instruction many students who enter the composition class convinced that they hate the work and can never do it to the teacher's satisfaction, soon learn not only that they are able to communicate their ideas by means of pen and ink but that they like the process. The teacher, while refusing to be satisfied with less than their best, remembers that their task is difficult and that the marshaling of words and sentences has for them something of the mysterious. Furthermore, this teacher exercises judgment in the standard by which she measures their work. This point has been discussed above. I refer to it here to show its relation to method in criticism. The teacher who demands literary flavor in students' essays, and the other who is satisfied with honest and reasonably effective discourse will differ widely in the character of their critical comments. Present indications pointing to the survival of the second type encourage us to believe in its fitness.

In addition to being kindly and sensible, criticism should be moderate in quantity and specific in purpose. I know the temptation to let no error go unnoticed; but experience has taught me the folly of returning themes covered with red ink or blue pencil marks. The difficulty is in determining what to comment on and when, and what to pass. The individual teacher must devise her own scheme with an eye to the typical weaknesses of her class. The task is easiest naturally in those places where the English course from the primary years up is so planned that specific difficulties are treated progressively in the successive grades. If the teacher has decided to deal systematically with certain forms of error, she will comment on those forms only which she is at the time dealing with. Any instructor of experience understands that this statement is necessarily general, literally applicable only in that Utopian school where each student in the class keeps abreast with the requirements of the teacher's plan. It is, however, in all cases true in principle and furnishes a kind of compass on a sea of bewildering inadequacies and errors. Moreover, the literal adoption of the plan does not entail the subsequent ignoring of errors which the teacher has finished discussing. She can throughout the course continue to give short class exercises based on these particular weaknesses;before accepting a batch of papers, she can have the pupils, after exchanging compositions, correct each other's work. Her best opportunity to help the laggard comes when she confers with him privately. She can then give him certain exercises not required of the class; she can kindly, but authoritatively, inform him that certain defects will prevent his passing; and best of all, by some happy inspiration she may say the word that will illuminate for him some phase of the subject.

In fact these personal talks are too valuable aids to class work to be neglected. By means of them the teacher can often convince the most skeptical boy that she wants to help him; she can make that keen diagnosis of his case—a most salutary thing—which she refrains from in the presence of his mates; she can suggest to him specific aids in overcoming his specific weakness; she can rebuke the lazy, encourage the timid, and commend the industrious. And she can in half an hour's conversation learn more of the student's predilections, environment past and present, and aspirations than she is likely to in a term of mere class-room acquaintance. This individual communion is far more wearing on a sensitive person than the congregational contact; and I doubt if it can be adopted to any extent and with the success it is entitled to when the teacher has more than twenty or thirty under her linguistic tutelage. Where, however, conditions permit, I should advise that the hours a week, which the school schedule allots to English composition be equally divided between class and individual instruction.

Some teachers never learn that criticism is not necessarily negative. It is a truism, and trite besides, to say that the child who hears nothing but *don't* is not likely to learn *do*. Enthusiasm and spontaneity, important if not essential elements in composition, are killed by a rain of negatives. It is true that certain improprieties are best treated briefly and incisively under the category of *don't*.

The indifferent and the wayward are never reached by such a method; and the conscientious are often discouraged. *Fault-finding* is certainly necessary, and woe to the teacher who dispenses with it. But appreciation should come first. In students' composition there will often be real humor, honest pathos, an interesting situation, a new point of view, an effective sentence, or a felicitous phrase. If none of these, then, perhaps some improvement on former work, fewer mispelled words and ungrammatical constructions, not so many *and's* and meandering sentences. When all else fails, the determined teacher may yet be able to commend neatness of manuscript or niceness in mechanical detail. If the student feels that his work is not hopeless, he is by so much in a happier mood to be told of his faults. Instead of continually saying "Don't do this or that," ask the student to substitute a concrete for a certain abstract term in his theme, a specific for a general; show him how a sentence can be rearranged in the interest of clearness; suggest a different point of view; make him see that however clear his meaning may be to himself, if he wishes it to be equally clear to his reader, he must try again.

The teacher should not be, and rarely is she, the sole critic. The pupils, whether she wills it or not, are constantly condemning and praising; and if she is wise she will make use of these proclivities. This must be done with care, for it furnishes abundant opportunity for the youthful critics to indulge in pert smartness, or snub the unpopular student. Such open discussions require the steady hand of an intelligent leader. Yet when they are skilfully controlled, there is no exercise which gives more satisfactory results. Students are naturally and properly more impressed with the judgment of their peers than of their superiors. When a boy discovers that his class-mates are not interested in his story, can get no clear impressions from his descriptions, and are puzzled by his endeavor to explain,he concludes that it is necessary for him to do better. If, on the other hand, they praise his composition, no commendation from any other source can so sweetly flatter. One's teacher is above one, more experienced and critical; her standards seem unreal and often impossible. One's class-mates, however, understand and hence judge fairly. However much or little a teacher may be disposed to utilize this kind of criticism, she will find it impossible to interest her students in a standard appreciably above that which satisfies the majority of the class.

Yet the most enthusiastic interest avails nothing unless the writer commands an adequate vocabulary. The average student does not use more than 300 words, whereas 3000 furnish only a moderate equipment. It is, then, not strange that he so often finds himself either quite dumb for composition purposes or powerless to express his ideas with exactness. How to increase his vocabulary to working proportions is one of the instructor's problems.

The successful young writer will develop more or less a *word-sense.* Without going to the fine length of Stevenson's subtle discrimination, he will regard words as clothes for ideas and will feel that as such they must not hang loosely but fit snugly and become the occasion. Where the indifferent and in consequence, poverty-stricken author is content with "the man *went* by," the adequately equipped writer will really describe the man's movements by saying that he *ran*, *lounged,* or *limped* by. To the first, gray eyes are no more than gray; to the second they are steel gray, glass-gray, brownish or bluish-gray. The one sees a *house*, the other a *mansion*, or a *cottage*, or a *hut*. The one in the most prosy context will write *steed* for *horse*, *save* for *except*. The other senses the distinction between colloquial and literary, prose and poetic diction.

This interest in words rarely results from the study of groups of synonyms, antonyms, homonyms, or what not. A vocabulary is not acquired by mere dictionary contact. Real understanding of words comes through conversation and reading. The first can scarcely be regarded as within the teacher's sphere of influence; but the second will prove a valuable auxiliary. A certain amount of parallel reading is generally required of students in rhetoric and composition classes. This gives the teacher a chance to introduce them to much good literature. And if in their own creative efforts they have begun to feel the need of a richer fund of words to draw on, she can easily interest them in the diction of the individual authors they are reading. This reading should be rather intensive than extensive. I do not mean that boys and girls should ponder every word in "Pride and Prejudice," "Vanity Fair,"or"The Lantern Bearers," but they should read such as these with minds alert to connotations as well as denotations. To the person eager to enlarge his own vocabulary it is as pleasant as it is profitable to make a note of the word or phrase that seems to him especially happy, vigorous, or illuminating,this list to be meditated on, lived with until the words become a part of his mental furnishings ready for use when the occasion calls.

If a good text-book is in the hands of the students, it can be used to advantage in more ways than by going systematically through the section on words. In such a book there will be a wealth of illustrative selections, rich in felicitous and vivid diction. When the class is studying descriptions the teacher will point them to a few of the selections best adapted to show the ability of words to convey sensual impressions. Students who are groping for the words that will describe a certain landscape after a snow-storm will be interested in those some one else has used for the same purpose. I have seen a class when called on for such a theme scan with some eagerness the three or four paragraphs from "Our Village," in which Miss Mitford describes a walk one snowy winter afternoon. Usually the students find that some of her phrases fit their own landscapes, and always her use of simile and metaphor for this purpose is a revelation. When the class takes up narration is a good time to attend to verbs. This type of composition, together with exposition will emphasize in their minds the necessity for judgment in the use of conjunctive words. A very satisfactory exercise is for the instructor to furnish the class a dozen or more words to be used in a required piece of written work.

For example, the teacher calls for the description of some fairly pretentious building in the vicinity. She then writes on a board a list of such words as *facade*, *battlement*, *elevation*, *turret*, *buttress*, etc., saying to the students that the use of these words will increase the interest and vividness of their themes. The resulting compositions will be twenty per cent. above the average level of such work and the writers will have added some useful words to their vocabularies.

The most important point, however, is that students should be made cognizant of the inadequacy of their individual word supply as shown by their themes. When they begin to take stock they are likely to discover that a score or more words such as *old*, *large*, *nice*, *awfully*, *beautiful*, *fine* have become colorless and dingy though excessive and ignorant handling. There are few students who will not under such circumstances go to work at once to accumulate substitutes for these overworked terms. When commenting on compositions before the class the teacher will have many opportunities of showing the superiority of specific and concrete expressions over the general and abstract ones they are prone to use. I doubt very much if any permanent good accrues to young students from the study of primary and secondary meanings of isolated words. In connection with their own efforts at writing, however, it is fairly easy to interest them in the discriminating use of synonyms. For instance, when a student has described a typical encounter between a nurse-maid and the small boy in her charge, if the teacher returns his theme with the written query whether *recalcitrant* does not better than *stubborn* describe the strenuous infant, that author is likely to consult the dictionary with an interest that leaves a lasting impression. Under such suggestive comments the life history of words and the values of synonyms begin to assume importance in his eyes. When such interest is general in a class, it is easy enough to lead them through many pleasant paths of elementary philological study. But for the practical purposes I have been discussing it is more profitable to keep close to the students' own labors in composition, helping them to develop their vocabularies from within outward.

Much that I have suggested is easily put into practice in every school. There is no teacher who can not increase the amount of oral work done in class, or send her pupils to their own experiences for the bulk of their material, or co-ordinate the study of words with their reading and writing. In many cases, however, it is impossible to secure the practical co-operation of teachers of other subjects, or to demand a sufficient amount of written work from students, or to give them the necessary individual attention. These things can be done only when school faculties recognize the peculiar importance of this subject and school boards are willing to invest as much money in English as in Science.

The School Calendar

Winter Term

Twelve Weeks

1907

January 2, Wednesday	*Entrance examinations and classification. Class work assigned at 9 A. M.*
March 22, Friday	*Winter Term ends*

Spring Term

Eleven Weeks

1907

April 2, Tuesday	*Class work assigned at 9 A. M.*
June 14, Friday	*Spring Term ends*

Summer Term

Six Weeks

1907

June 17, Monday	*Classification. Class work assigned at 2 P. M.*
July 26, Friday	*Summer Term ends*

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THE NORMAL SCHOOL BULLETIN

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JANUARY 1, 1907

THE STUDY OF LITERATURE IN THE UPPER GRADES

BY

ISABEL McKINNEY, A. M.

CRITIC TEACHER IN ENGLISH AND HISTORY

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The Study of Literature in the Upper Grades

BY ISABEL MCKINNEY, A. M.
Critic Teacher in English and History

It is hardly possible for a child educated according to any modern programme to escape some contact with good literature. Even if he does not study literature as a distinct subject, he finds famous poems and good bits of prose used in his reading class, his grammar, composition, and language work. Yet this array of excellent literary material may be deceptive. The child may analyze the sentences of a poem or read it aloud, write a composition or paraphrase based upon it, or even commit it to memory; he may study the meanings of its words, its metaphors, similes, and allusions, its historical setting, its moral teaching, and the biography of its author, yet never in reality study a single poem as literature.

A discussion of this proposition tends to vagueness through lack of an adequate definition. For the purposes of this paper let the term "literature" be broad enough to include all selections of poetry and prose likely to be used in the English courses; any "life-experience" told in a more or less artistic way. If literature is something of this nature, then a study of literature should lead first of all to a comprehension of this experience, and an appreciation of its expression in words. It may lead further into varied fields of historical and critical analysis and classification; but for children in the grades, because a rather wide knowledge of particulars must precede any understanding of abstractions, this comprehension and appreciation of each selection is the all-important and sufficient end.

It is obvious that a child studying a poem for any purpose whatever under the guidance of a highly-gifted and sympathetic teacher might arrive at this end. It is equally obvious that a highly-gifted and sensitive child might in every case comprehend and appreciate for himself without any guidance. Here are added to the apparent means personal forces not to be reckoned on by most teachers in dealing with the ordinary child. For these it is requisite to find the most direct means to the best results.

Several methods in common use can hardly be said to meet these requirements. Most frequent, perhaps, are those which make literary material a mere tool for the performance of some task, a task whose end, important in itself, focuses the attention.

To many teachers, for example, the study of a poem means the analysis of its sentences and the parsing of its words. Now the use of a poem for grammatical analysis is the study, not of literature, but of grammar. Literary appreciation may, though it usually does not, attend the process; to taste an orange and to dissect it for the microscope are two very different but not wholly incompatible ways of treating it. Doubtless it is both necessary and desirable that some poetry be appropriated to grammatical uses; but this may well be substantial poetry, logical or discursive, which can bear rough handling, and at any rate such study should never be labeled "literature." The grammatical anaylsis of every sentence in Tennyson's "Bugle Song" is hardly a more direct and certain way to the comprehension of that poem than the chemical analysis of Millet's colors is to the understanding of the "Angelus."

To study a poem for the purposes of composition or reading is not generally so far wide of the mark, because the purposes here are partially identical; some insight into the spirit of a poem is essential to its reproduction, whether orally or in writing. But beyond this each subject has concerns of its own entirely distinct from those of literature. Neither are the ends of literature served by taking the poem as a mere text for discussion geographical, biological, historical, or even ethical. In general, the use of a poem invariably with some ulterior motive—grammatical, moral, or otherwise—is obviously not so direct a way to the comprehension of its meaning and the appreciation of its literary form as a study of that poem for its own sake.

On the other hand, this study does not mean a mere reading of the piece of literature either to or by the children Such reading has its place and a large one, in the school plans, but it is not productive of the same results as thorough study. The advocates of the exclusively-reading method are generally people who know books better than they know children. They seem to believe either in a sort of limited predestination to the delights of literature which makes the services of a teacher useless, or else in a universal predestination which makes those services unnecessary. Neither of these beliefs accords with the facts; most children seem to be capable of some real literary appreciation; but the great majority of them must attain to it, and that not by listening with however great apparent joy to the reading of anything by anyone. There are those also, not advocates but clients of the method, who resort to it from indolence or bewilderment. In any case the results are similar: considerable pleasure if the material is interesting and the reading well done, some development in taste and in quickness of apprehension, and a superficial and generally evanescent impression of the literature read.

If, then, some genuine study of a piece of literature be undertaken for what there is in it, the teacher at once discovers that, from the very nature of the material, no general rules can much avail. The cardinal principle, indeed, is that of individuality. No two pieces of literature embody precisely the same experience in precisely the same form; therefore no two can be studied in precisely the same way. Probably no two teachers and no two classes are capable of exactly the same comprehension and appreciation of any one poem. Insistence on this individuality, both objective and subjective, seems to leave the whole matter in a fog utterly bewildering to an inexperienced teacher; but it is really a guiding and illuminating conviction.

It means primarily that all study must be at first hand. The teacher must find out for himself just what the piece of literature says, and how; then he must help the children to do the same. In both of these tasks he may have much valuable assistance nowadays; but no one else's notes, explanations, suggestions, or questions can take the place of his own thought. Until he has mastered the thing he can hardly help others to its mastery. Then, too, he must discover not only the meaning of the poem for him, but its most important characteristics for his class,—where to lay the emphasis in teaching. Certain masterpieces, "The Ancient Mariner" for instance, might be studied, from different points of view, in every year from the fourth or fifth through high school and college. Others, like the "Legend of Sleepy Hollow" or "Ivanhoe," are actually taught in any of the upper grades or the first two high school years, the problems attacked growing in difficulty with the maturity of the class. However puzzling these questions of adjustment may appear, the first requisite to answering them is a thorough knowledge of the subject-matter.

The material for consideration in any piece of literature is of course twofold: content and form. The content, that bit of life-experience, thought or fancy, scene or story, characters, their motives and actions, all this is of first importance. A comprehension of it involves not only understanding, but realization,—understanding intellectually, realization imaginatively. Just where understanding leaves off and realization begins it would be impossible to determine; but the general difference between them is clear enough. Understanding means mastery of the text, the words and the thought behind them; realization means reconstruction of scenes and situations, reanimation of motives, rekindling of emotions. Understanding involves interpretation in terms of the reader's vocabulary and habits of thought; realization involves interpretation in terms of his feelings, images, and experience. The first is necessary to any intelligent reading; the second also is essential to the comprehension of any true literature, not only "The Daffodils" and "Home Thoughts from Abroad," "Hervé Riel" and "The Passing of Arthur," but Lincoln's "Gettysburg Address" and Lamb's "Dissertation on Roast Pig." The stimulation of this imaginative realization is the special and imperative duty of the teacher of literature.

Of literary form and style, appreciation does not mean a great deal of technical knowledge. Suitable for discussion in the upper grades are such things as the interweaving of plots in "Silas Marner" and the "Merchant of Venice," the telling descriptive words and sense images of "Sir Galahad," the march from one great scene to another of "Ivanhoe," the brisk, friendly manner of "Treasure Island." In poetry the element of sound is to be considered, the rhythms, not freighted with their ponderous classical titles, long lines and short, the music of vowels and consonants, the adaptation of sound to sense, and the echo of the rhyme.

As to special methods and devices for presenting this material, few suggestions are at all widely applicable. One thing is absolutely essential to good work—a definite assignment. Three or four carefully worded questions or directions for study given out in advance prepare the children for interested and profitable class discussion, and save time. Almost always the class should be directed to read the short poem or chapter through for a general impression or the thread of the story, then to study carefully for the special questions assigned. The kinds of questions are naturally determined by the nature of the material; a light, dainty lyric like Lowell's "Fountain" would be spoiled by an attempt to ponder and discuss it with the seriousness necessary for Emerson's "Rhodora."

If the wording is difficult or the expression highly figurative, the first problem is one of translation. Here again the teacher must use judgment; it is worth while to consider every word in a poem like "Sir Galahad;" but, although much of Shakespeare is unintelligible to twentieth-century children without a glossary, to explain every obscure phrase would be a waste of time; and to elucidate every sentence of "The Talisman" would be folly. With these distinctions in mind the words or sentences likely to cause trouble should be assigned for study. Sometimes the key sentence of a chapter with all that it opens for discussion, will be sufficient for a whole lesson. More often, however, the explanation of words and phrases is a ground-clearing process, insufficient in itself even to the cultivation of full understanding.

For this, questions of circumstance are necessary: who, when, where, what, how—questions sometimes of little value except to send the child to his book again and again. Such, for example, are: "Name the characters in this chapter.

Which have we met before? Name all the places visited by the hero. How many men are left on each side? Account for each one missing. How many chapters here describe the events of a single day? Give Portia's argument in brief."

A step beyond the question of circumstance is the question that appeals to imagination and judgment. One of these may often do duty for five or six questions of fact, because its answer includes the answers of all the others. A few examples are: "Who is the hero of this play? Why? Do you think it was right or wrong for Jim (in "Treasure Island") to leave the stockade? Give reasons. What is Shylock's strongest trait of character as shown in this scene? Picture the scene in the Cass's parlor when Silas Marner appears in the doorway. Tell everything that Eppie did for Silas."

Questions of literary form will occur less frequently. This is partly because in many of the selections taught the form is of little consequence; but some of the less admirable verses are good to illustrate the beat of the rhythm, for example. Whenever any matter of form is discussed it should be kept in the concrete, referring to the selection in hand, with as much illustration and as little theory as possible. Very little comparison should be attempted; but after several novels for example, have been studied, some differences or similarities may well be noticed. With children it is perhaps wise to assume the reality of characters and events: to ask not "Where does the author make use of the element of chance?" but "In what ways does some fortunate chance save Jim's life from Israel's hands?" But possibly the danger of spoiling the story with technical questions has been overestimated. After all, to these older children, when they have been stimulated to imagine vividly until every scene and character is real, a glimpse of the artistic side should bring only keener pleasure.

After the study of a rather long selection, general questions are profitable, gathering up facts and impressions.

Written summaries of acts or chapters are useful in discovering essential elements of plot; and character sketches, more or less detailed, should be frequently attempted. Material to help in this kind of work may be kept in note-books as the study progresses: lists and descriptions of characters, suggestive titles for parts or chapters, most important events, and favorite passages for memorizing.

The wording of a question to draw out the "theme" or "moral" is a matter for careful thought, and the handling of the class discussions following such a question is an even more delicate affair. It is a pity for the teacher to make only moral what the writer has made spiritual. A skilful teacher on excellent terms with her class can ask, "What kind of people ought to read this poem?" and make personal applications of an allegory, with entire success. But in general the moral had better be left wrapt in the poem or story —it is often bare enough there. "Do you think the Ancient Mariner was punished too severely?" will probably produce a much more vital and unembarrassed discussion than "What is the lesson taught us by this poem?" When a moral is aimed at one's head, it is human nature to dodge.

In the classroom the ideal is perfect freedom with constant progress. The teacher will not propound the carefully assigned questions like so many separate problems in arithmetic. The literature still is master; the questions are not ends in themselves, but helps to comprehension. There should be a certain fluidity about the discussion, yet held within bounds, so that it shall not run away to nothing like water spilled upon the ground. Besides questions and answers, and informal expression of ideas, longer topical recitations are often desirable; some of the directions already suggested will produce these. Most important of all, perhaps, is the constant picturing of scenes down to minute details, for the purpose of testing and developing the child's visualizing power. Oral description and analysis of character, and summaries of events, should often precede written work of the same kind.

All this will have its influence on the language work and reading. Indeed, when once the teacher has distinguished their separate purposes, he may well use either for the help of the others. The biographies of the more familiar authors, which are well enough for the children to know, but for which there is no time in the literature class, may be turned over to the composition class. In the reading class conversational parts from a story may be acted. Sometimes dramatization may be attempted, as a play from "Quentin Durward," or scenes from "The Great Stone Face" or the "Arabian Nights." In many other ways the composition, reading, and literature may be related; but each subject should have its due proportion and alloted period of time.

What is the just proportion of time for this careful study of literature depends, of course, on its value as compared with other subjects; and a treatment of this belongs to the philosophy of education. That it has some specific value should be evident. The beauty of a line of poetry, for example, is worth learning to hear; and Americans are not likely to overdo the matter of ear-training. Appreciation of strong plot-structure, true characterization and telling description, may influence to some extent the pupils' judgment of some trashy novel, or reveal the tawdriness of Diamond Dick. Training in the ability to read closely, to get the meaning from a page or line, familiarity with varied forms of expression and figures of speech, all are widely and immediately useful.

Moreover, the vivid realization of another's thought, the power of putting one's self in another's place, of seeing with another's eyes, is worth cultivating or acquiring. A live and healthy imagination is not only an aesthetic but a moral asset. If the characters in "Snowbound" are so much alive that the children know which sister they like better, and the color of the uncle's hair; if they can see the landscape of the autumnal Hudson valley as the ever-hungry Ichabod beheld it; if they can think Lowell's thoughts when they find the first dandelion, they have gained much more than immediate pleasure.

One thing is certain, however: not all the minute study possible in the grades can make a child free of the world of books. It can give him only a few standards, a few tools, and a little training in their use. Much reading, or even the sight of books—a shelf-full of stories by Stevenson, the complete works of Holmes, a beautiful edition of Irving—will help to put the schoolroom work in its proper place. By every means in his power the teacher should make the child feel that these particular poems and stories of his textbook are not mere educational documents prepared for his edification, but pages from a great library, where wise and grown-up men delight to linger, and where he may choose to his own taste whenever he can reach the shelves. So perhaps he may be tempted to grow strong, and may find some use and meaning in his study of literature.

The School Calendar

Spring Term

Eleven Weeks

1907

April 2, Tuesday	*Class work assigned at 9 A. M.*
June 14, Friday	*Spring Term ends*

Summer Term

Six Weeks

1907

June 17, Monday	*Classification. Class work assigned at 2 P. M.*
July 26, Friday	*Summer Term ends*

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